

A N
A B R I D G E M E N T
O F
Baron VAN SWIETEN's Commentaries
UPON THE
A P H O R I S M S

OF THE CELEBRATED
Dr. HERMAN BOERHAAVE,
Late Professor of Physic, &c. in the University of LEYDEN.

CONCERNING
The KNOWLEDGE and CURE of DISEASES.
By COLIN HOSSACK, M. D.
OF COLCHESTER,
Physician to his late Royal Highness FREDERICK
PRINCE of WALES,

*Quidquid præcipies, esto brevis; ut cito dicta
Percipiant animi dociles, teneantque fideles.*
HORAT.

I N F I V E V O L U M E S.

V O L. V.

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THE CONTENTS OF THE FIFTH VOLUME.

	Pag.	Aph.
O F the small-pox, - - - - -	1	1379
— epidemic diseases, - - - - -	29	1404
— the stone, - - - - -	45	1414
— the lues venerea, - - - - -	93	1440
— the rickets, - - - - -	121	1480
— the rheumatism, - - - - -	135	1490

Page Line
45. 12. for *calculus*, read *calculosus*.
121. Aph. 1479. for *ΤΕΡΗΙ*, read *ΤΟΡΗΙ*.
149. 5. for *drabns*, read *drachms*.
Ibid. for *was*, read *were*.
151. 33. for *viscus*, read *viscosus*.

1379	1	-	-	-	-	the small box
1404	20	-	-	-	-	epidemic diseases
1414	45	-	-	-	-	the bone
1440	93	-	-	-	-	the inner venter
1480	121	-	-	-	-	the water
1490	133	-	-	-	-	the mountain

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ABRIDGEMENT

O F

Baron VAN SWIETEN's Commentaries

UPON THE

APHORISMS

O F

Dr. HERMAN BOERHAAVE.

CONCERNING THE

KNOWLEDGE and CURE of DISEASES.

Of the SMALL-POX.

APHORISM. MCCCLXXIX.

THE disorder, called the Small-pox, being so common to children, I shall speak of it in this place. It has been so accurately described by *Sydenham*, who cannot be too often read, that I have but little to add to what he has said on the subject; and that, just to make it appear, that the small-pox may be reduced to the same simplicity with the diseases already treated of, and that there is something still wanting in the method of cure.

Although every stage of life is subject to this distemper, yet, as youth is particularly so, the history

of it naturally follows that of the disorders incident to children.

The learned have differed considerably in their sentiments concerning the antiquity of the small-pox; some averring that they were known to *Hippocrates*, and the ancient Greek physicians, whilst others entirely deny it. But though they differ so much with regard to the antiquity of this disorder, they all seem to agree, that *Rhazes* was the first who gave a distinct history of it, and that it spread itself with the arms of *Mahomet*, over many countries, where it was before unknown.

It likewise spread itself all over Europe, after the holy war, and in the 13th century the distemper was so frequent in England, as to be known even to the old women of that country, where it has never since totally disappeared. Nay, it is rather manifest, that when once this contagious evil has got into any country, it there takes up its residence, and now and then breaks out again. It is likewise the common opinion, that the Americans caught the small-pox, with which they were before unacquainted, from their European guests.

Although *Sydenham* has given us a most accurate history of this disease, the practice of some of the moderns ought not to be neglected, as it has furnished new observations, and more clearly pointed out the nature of the disease.

A P H. MCCCLXXX.

THIS disorder is generally epidemical, beginning early in the spring, increasing in summer, abating in autumn, ceasing almost entirely the following winter; to return in the spring, and reign again in the same order. The sooner it begins in winter, the more violent will the nature

nature of it be, and the later, the more gentle. Hence we may gather, at what season of the year it is attended with the greatest danger.

The observations of Sydenham, and all other practising physicians, prove, that the small-pox is to be classed amongst epidemic distempers, seeing that it rages for years together, and then disappears. This is manifest in villages and small towns, where sometimes the small-pox is not to be seen for a succession of years. It has been observed, that now and then the small-pox does not rage in great cities, in the manner of an epidemic distemper; but that here and there one or two only shall have it without propagating the contagion to others, and then the disease is said to be *sporadic*. I have sometimes observed large towns to be free from the small-pox, whilst it raged epidemically in the neighbouring villages; and, on the contrary, some large towns visited with the complaint, whilst the villages in the neighbourhood remained in health, though the inhabitants of both mixed daily with one another. Hence it is with justice said, that the small-pox is, for the most part, epidemic, but not always so, as it is sometimes *sporadic*.

Beginning early in the spring, &c.] Sydenham observed, that the small-pox frequently appeared about the vernal equinox; that from that time it daily increased; that in autumn, the greatest numbers had it, but that it lessened at the approach of the winter's cold; that in the succeeding spring it made its appearance again, and proceeded as before, till it was entirely checked by the following winter. That the third spring following, the disorder again became frequent, but proved more mild and gentle during the summer, till the month of August, when it entirely disappeared, giving place to another epidemic, namely, the dysentery. At the same time he observed, that the most regular and mild small-pox be-

gins about the time of the vernal equinox; but the irregular and more dangerous sort shews itself sooner, viz. in the month of January. It is certainly of great service, diligently to observe every circumstance attending epidemic disorders; as to time, duration, symptoms, their happy or fatal issue, &c. and then compare them with the same circumstances of the same disorder, when it happens to return some years after. By these means it will quickly appear, how far they differ from each other; and many circumstances may be discovered by the attentive physician, which would lead him to a right method of cure.

Hence we may gather at what season, &c.] It is generally agreed, that spring and autumn are the seasons most favourable to patients in the small-pox, as well because the weather is then more temperate, as because the disorder itself is apt to be milder in spring; and in autumn, is generally less attended with those dreadful symptoms, with which it usually rages in the summer months. The winter, however, must be allowed preferable to the summer, as the most intense cold may be moderated by a fire, whereas the summer heat cannot be easily cooled, at least by the poorer sort, who are often cooped up, in houses so small, that in these seasons, the healthiest among them scarce escape suffocation.

A P H. MCCCCLXXXI.

IT seizes every age and sex, but especially children, and such as have not already had it; the more age has dissipated the fluids, and condensed the solids, the more violent the disorder. Hence it proves rather favourable to children, women, and others of a soft and loose texture; and the reverse to persons hardened by labour, to men, and to old people.

Every

Every age and sex, &c.] No one, who has not already had this distemper, can flatter himself that he shall never have it; not even those who have been often exposed to the variolous contagion, without suffering by it. There are indeed some of such an *idiosyncrasy*, that though a thousand times exposed to the contagion, they have never been infected by it. Are we then to conclude, that, as there are hereditary disorders in some families, so there are in others, though few, an hereditary immunity from the small-pox? Many instances of this kind may be seen in the writings of *Stalpart van der Wiel* and others. *Diemerbroeck* affirms of himself, that though he was almost seventy, had seen and attended thousands ill of the small-pox, and had handled the ulcers of the sick, yet he never took it; nay, he mentions his father and uncle, and others of his family who never had it, though each lived almost ninety years.

Physicians have not agreed concerning the certainty of a person who has once had the small pox, whether he shall ever have it again. Some assert it, others deny it; and there are to be found great medical names on both sides of the question. I have a thousand times heard people speak of their having had the small-pox twice, thrice, and even four times; nay, they took offence at my not giving entire credit to their narrations.

There are, no doubt, many cases in medical history, which tend to prove, that the same person has had the small-pox twice, and even oftener: but, if we consider, that it appears from experiments, made for the purpose, that those who have once had the disorder, do not take it again, we may venture to relieve those, who have gone through it, from the fear of a relapse. The celebrated *Mead*, and other eminent physicians were of this opinion; and, if I may add my own testimony, I must candidly own, that I never met with a single instance of the same person having the small-pox twice.

6 Of the SMALL-POX. Aph. 1382, &c.

The more age has dissipated the fluids, &c.] Because both the chyle and the blood are condensed by the action of the vessels, therefore a dissipation of the fluids, and a great cohesion of the solids, are not favourable circumstances in this disorder, in which the blood is, of itself, but too prone to degenerate into an inflammatory sizziness. Now, this is the effect of age.

A P H. MCCCLXXXII.

THIS disorder, though epidemic, is taken by a contagion communicated from some person who has already had it; which contagion, as inherent in the air, seems first to attack the lungs, mouth, nose, œsophagus, stomach and intestines, and therefore to have, at such time, very little poisonous matter in its composition.

That the small-pox is propagated by contagion, and that the contagious miasmata are taken into the body by the lungs, mouth, &c. and mixed with the humours, is certain from numerous observations.

A P H. MCCCLXXXIII.

THIS contagious matter, being mixed with the humours, immediately produces certain effects, which regularly succeed each other; these are a shuddering, a rigor, an acute fever, a great and constant heat, a glistening of the eyes from the defluxion of a thin hot humour, a violent pain in the head, back, and limbs, particularly about the parts lying under the pit of the stomach, a vomiting and nausea,
great =

great restlessness, a stupor, a drowsiness, and, in children, epileptic fits.

A shuddering and rigor are the common symptoms of all acute diseases in their incipient state, and are followed by a fever. Sometimes the small-pox come out in a mild and gentle manner, without any fever; but the worst kind is preceded by a great pain in the back, and a continual fever, which grows higher and higher till the pustules appear. The whole body, even to the extremities, becomes very hot, with a slight sensation of prickling all over the skin, and a propensity to sweat, I mean in adults; for *Sydenham* tells us, that he never observed this symptom in children. The eyes glisten, and the vessels of the *adnata* become redder than usual. There is always a pain in the head, and often a delirium; which, however, is no bad omen in this stage of the disorder, and generally ceases when the small-pox come out. But sometimes there is a very sharp pain in the region of the loins, like that felt in a nephritic fit; now in the side, like a pleuritic stitch; now in the limbs, like that in the rheumatism; now in the stomach, with great uneasiness, and most violent vomiting. Such sharp pains, as *Sydenham* observes, greatly retard the eruption of the pock; and when they appear, they are of the confluent and most dangerous sort, and almost always fatal. *Hillary* has likewise condemned an intolerable pain in the back, in the very beginning of the disorder, as the sign of a small-pox of the worst kind.

When the contagion of the small-pox seizes the superior orifice of the stomach, or the stomach itself, then a pain is felt about the region of the heart, a vomiting, and a nausea. But these symptoms do not always happen, even in the confluent kind. A stupor and drowsiness indicate an oppression of the *encephalon*, and are always bad signs.

Epileptic fits often happen in children, whose nervous system is so irritable, as to be disturbed by the slightest causes. If these come on early in the beginning of the disorder, they denote a violent irritation, caused by the morbid stimulus; but if they come on a little before the eruption, then they generally indicate a salutary effort of nature, by which the variolous matter is driven towards the skin.

A P H. MCCCLXXXIV.

IN the beginning of this stage of the disease, the blood taken from a vein looks very well, and perfectly resembles the healthiest; on the 2d, 3d, or 4th day, it appears as if pleuritic and inflamed, and that in proportion to the duration and violence of the disorder.

Sydenham found the blood taken from a man of a sanguine habit, and in the prime of life, on the third day of the disorder, perfectly sound and florid; whereas that taken on the 21st day, "looked like that in a pleurisy, and seemed little better than pus." Practical observations shew, that the blood acquires this inflammatory siveness, now earlier, now later. However, it is far from certain, that this siveness is produced by the immediate action of the variolous contagion; it seems more probable, that it is occasioned by an acute fever and heat raised by the contagious stimulus. See Aph. 587 and 684. For as an acute fever and heat attend the first stage of the small-pox, it is with greater reason such inflammatory lentor is attributed to the violence of the fever, and an increase of heat, than to the contagion itself, from which the fever took its rise.

It is the opinion of some famous physicians, that the variolous virus rather thins the humours than thickens

thickens them. A cough, which may justly be attributed to a lentor created by cold, and an obstructed perspiration, was removed within forty hours after inoculation. *Mead* has observed, that the small-pox has been of service to persons whose blood was naturally bad, or impaired by improper food, and the siziness of whose lymph had produced glandular tumours. There are many other observations which render it probable, that the variolus contagion thins the humours. * It is to this solution of the blood, that we are to ascribe those hæmorrhages in the small-pox, which so often prove fatal.

Mead, considering the great variety of symptoms attending the small-pox, struck out that very proper division of *simple* and *malignant*. He calls that the *simple* small-pox, in which the pustules come out with a simple fever, and of short continuance, easily ripen, contain a good pus, quickly dry and fall off. The *malignant* he calls that, which is attended with a malignant fever, anxiety, a sudden prostration of strength, and in which the pustules never suppurate, but rather become gangrenous.

A P H. MCCCLXXXV.

THE duration of this stage is longer or shorter, according to the nature of the epidemic causes, the violence of the disorder, the habit of the patient, and the season of the year; the longer or shorter this stage is, in its own nature, the more mild or malignant the disorder will be through all its stages.

A P H. MCCCLXXXVI.

HENCE the disorder in this stage (1380 to 1386) seems to consist in an increased velocity of the fluids, produced by an inflammatory stimulus, thoroughly mixed with the blood.

A P H. MCCCLXXXVII.

THE small-pox, therefore, akin to every inflammatory disorder, is not, in this stage of it, to be easily distinguished from any; but a knowledge of its being then the reigning epidemic, of the patient's disposition to take it, of the preceding contagion, and of the symptoms that naturally follow, are sufficient to shew that the small-pox is breeding; and that the pustules themselves will make their appearance in the next stage, which I shall presently describe. See Aph. 1380, 1381, 1382, and 1383.

A P H. MCCCLXXXVIII.

THIS stage of the small-pox being known, the first indication that offers, seems to be the curing of it in its present state, the preventing of its future progress, by removing the inflammatory stimulus, (1386) and then to hinder the future suppuration, gangrene, &c.

It must ever be a work of great difficulty to remove the contagion when it is received into the body,
since

since it does not shew itself but by the effects it produces, when it begins to act, and then the disorder is present; so that all art can do, is to prevent its further progress. But there is greater reason to hope, that the infection may be so weakened, as to be no longer able to produce the small-pox; or, that it may be insensibly driven out of the body before it can do any great mischief; or deprived in part, if not entirely, of that power by which it communicates its poisonous quality to all parts of the body.

If the cutaneous vessels could be so disposed, as to transmit the matter assimilated by the contagion, and which is by a critical metastasis deposited on them; or if this morbid matter could be so attenuated, as to be carried out of the body by the exhaling vessels, then few, if any, pimples would come out, and the whole course of the disorder might be finished without any great danger. Besides, though the matter of the disease, already impacted in the cutaneous vessels, should actually have produced inflammatory pustules, yet we might still hope to resolve the inflammation by proper remedies, so as to prevent a suppuration. See Aph. 1394.

A P H. MCCCLXXXIX.

IT is probable, that the stimulus may be removed by specific correcters, or by the general antiphlogistic method.

We call those specific remedies, which render the morbid cause so inert, that it shall no longer do any mischief, and yet perform this kind office, without causing any sensible alteration in the body; for cures of the intermitting fever by vomits, purges, or sudorifics, are not specific cures; but the bark is justly stiled a specific remedy for intermitting fevers, as it cures them without any sensible evacuation; a remedy

medy capable of carrying off the morbid stimulus of the small-pox, or rendering it inert without disturbing the body, then the cure of the small-pox, by such a remedy, may be justly stiled specific.

As the fever excited by the stimulus is followed by pustules, which inflame, suppurate, and sometimes become gangrenous, that method must certainly be good in the small-pox, which is generally used with success, in the cure of these complaints. The antiphlogistic method is, therefore, proper in the small-pox, as it removes the inflammation by a mild resolution, and prevents, as much as art can, all the bad consequences of an inflammation, such as suppuration and mortification; but as the variolous contagion, even at its first attack, sometimes proves very hurtful, by depressing the vital powers, instead of raising an inflammatory fever, it would be madness, in that case, to use the antiphlogistic method. We must here have recourse to that which suits diseases that are truly malignant, as will afterwards appear, when we come to treat of the cure of the small-pox.

A P H. MCCCXC.

THE specific correction of the inflammatory stimulus ought to be founded on the discovery of some remedy, contrary to the nature of the contagious poison, which, though taken into the body, in so small a quantity, produces all the subsequent symptoms, as so many effects. See Aph. 1382 and 1383.

A P H. MCCCXCI.

THAT such a remedy may be discovered, we are encouraged to hope, by comparing together the history of antidotes, and the nature of the small-pox; and surely, the great benefit such an antidote must be to mankind, is a sufficient motive to search for it.

From the history of poisons, it is probable, that every poison has its own antidote, by which it may be either totally destroyed, or so weakened, as no longer to do any mischief; and which, when taken inwardly, or applied outwardly, shall not, of itself, do any new injury to the body.

A P H. MCCCXCII.

THE success, such as it was, which has been sometimes known to attend the use of stibium and mercury, reduced by art to a great degree of penetrability, nor yet rendered too corrosive by their saline acrimony, but well united, is a further inducement to look for such an antidote.

Nothing can be surer, than that the most troublesome ulcerations, and many cutaneous diseases, proof against all other remedies, nay, the *lues venerea* itself, have been cured by mercury, discreetly administered. Mercury has been used with success against that terrible poison which produces the canine madness; and we have the testimony of some physicians, that *mercurius dulcis*, has so far proved of service in

the small-pox, as to make the pustules come out more kindly; nay, even prevent their coming out at all, or, at least, in any great number. A physician gave to his own child, a girl of seven years, a large dose of *mercurius dulcis*, with four grains of sulphurated scammony, which purged, and towards the evening, vomited excessively; after this she slept soundly, and the pustules never came out, though the small-pox raged epidemically at that time, and her brother actually ill of it, and loaded with pustules. See Miscel. Curios. dec. 1 and 3, page 15 and 93. From these, and many other observations, it is probable, that no harm can attend a discreet use of mercury in the small-pox. I am convinced, from a number of trials, that even the corrosive sublimate, given in small doses, has conquered many stubborn disorders.

Stibium or antimony, likewise, is possessed of admirable virtues; but these remedies have been chiefly extolled, in which mercury, or the milder preparations of it, are combined with antimony. Hence the cinnabar of antimony has obtained no small reputation in the cure of the small-pox. In the *materia medica*, there are formulæ, in which the mercurial and antimonial preparations are united; and other things of the same nature may be easily prepared in imitation of them.

A P H. MCCCXCIII.

THE universal method may, it is probable, be used in this disease, and those measures taken which are found of service in every inflammatory disorder, to prevent the inflammation's turning into a suppuration or a gangrene, as it succeeds in every other case, what should hinder it succeeding in this, and procuring a small-pox exempt from pustules?

A P H.

A P H. MCCCXCIV.

THIS method is as follows: 1. Let the patient be bled as directed at Aph. 854, No. 1. 890, No. 1. 2. Let the whole skin, mouth, œsophagus, and intestines, be often relaxed with fomentations and clysters. 3. Let him drink plentifully of thin water-gruel, acidulated with lemon or orange juice, or with nitre dissolved in it. Let him likewise take the nitrum stibiatum, or sal polychrest, in milk and water. 4. Let his diet be light, the air he breathes cool, his body well covered, and in a state of perspiration.

A P H. MCCCXCV.

FOR though physicians seldom think of this indication (1388) in the small-pox, and seldomer of the antiphlogistic method, Providence, nevertheless, has often given sufficient success to it, even when the physician was ignorant of the disease.

When the small-pox prevails epidemically, there is no physician, that does not suspect it, when he is called to any one in an acute continued fever, who has not already had that disorder; but when it only attacks one person or another, here and there, sporadically, in large towns, they are apt to lose sight of it, and treat it as an acute inflammatory fever. The great *Boerhaave* candidly confesses, that this happened even to himself; for, being called to a young man, in the height of summer, he did not, in the
be-

beginning of the disorder, dream of the small-pox, but boldly used the antiphlogistic method; nor had he any reason to repent it, when he afterwards saw the pustules break out. I have known the same thing happen to others, who could not, with any degree of patience, hear of the antiphlogistic method. Seeing, therefore, the antiphlogistic method has been often crowned with success, we may safely recommend it in the first stage of the small-pox, when attended with the symptoms enumerated at Aph. 1383.

A P H. MCCCXCVI.

THIS disorder, when it has gone through its first stage, which I call the state of contagion, enters upon the second, the course of which is as follows: First, the skin of the head and the face, then presently that of the hands and arms, and next, the trunk and inferior parts, are covered over with small red specks, like those of flea-bites, upon which the symptoms immediately become milder. These red pustules increase every hour in size and number; they rise more and more every day above the skin; they inflame; the skin becomes tense, painful, and hot; the circulation is impeded; perspiration obstructed. Hence the humours are repelled to the internal parts, a fever, an anxiety, a dyspnæa, a pain in the throat, an angina, a diarrhæa, a dysentery, bloody urine, an hæmoptoe, a red, hot, and painful inflammation of the skin between the pustules, which, when they have continued four, five, or six days, are perfectly suppurated, and converted into so many imposthumes. This stage, viz. that from the ap-

appearance of the pustules to their impositumation, I call the stage of inflammation, which generally lasts four or five days, according to the nature of the epidemic causes, the constitution of the patient, the violence of the disease, the regimen, season, &c. so that on the eighth day, from the beginning of the disorder, there is a suppuration of the pustules. At this period, blood taken from a vein is greatly inflamed.

A P H. MCCCXCVII.

IF the stage of contagion be violent, the pustules numerous, close to each other, and, as it were intermixed, all the signs of the inflammation great, the patient of a saline olivous constitution, in the prime of life, and one who has lived high; if, the regimen and remedies have been such, as greatly increase the velocity of the blood, and the weather be very hot; then, towards the end of the inflammation, there will arise vesicles full of a reddish lymph, denoting a gangrenous disposition of the humours (427, No. 5.) Hence the skin becomes unfit for the circulation and exhalation of the fluids; which are, therefore, repelled to the internal parts. Hence also, a profuse salivation, and a great swelling in the hands and feet.

A P H. MCCCXCVIII.

FROM these circumstances, the diagnosis and prognosis of the second stage is known; and the nature of the disorder, and all its symptoms may be guessed at, being almost confined to the following rules:

1. The milder the stage of contagion is, the more gentle will that of inflammation be.
2. The slower the pustules break out, and therefore the longer the stage of contagion, the more favourable the disorder.
3. The fewer, the more distant, the larger, the more remote from the face, the whiter, and the yellower the pustules are, and the slower their progress, the better.
4. The more numerous, and confluent the pustules are, the smaller each one is, the more they run together in the face, the browner or blacker their colour, and the quicker their course, the worse the disorder.
5. The more the matter of the pustules is like good pus, the better.
6. The more the matter of the pustules resembles a gangrenous ichor, so much the worse.
7. The redder the intervals between the pustules, the more warm, tense, and swelled about the time of imposthumation; the more hopes of recovery, the circulation still continuing in these parts.
8. The paler or browner these intervals are, so much the worse; a mortal angina or peripneumony follows; unless prevented by a discharge

Aph. 1399. Of the SMALL-POX. 19

charge of thin saliva, or a great swelling in the hands and feet; for the circulation being obstructed in these parts, the humours are driven towards the internal parts.

9. If purple spots appear in the place between the pustules, it is a sign of a mortal gangrene.

A P H. MCCCXCIX.

THE indications in this second stage differ, as the disorder is more or less advanced; for, in the first beginning of the external inflammation, some caution is requisite to prevent a suppuration, of which I have already spoken at Aph. 1393, and 1394; or, if that be neglected, care should be taken, that the suppuration be as little as possible, that it be distant from the head, and likewise, slow, which are effected: 1. By a very spare diet, which at the same time resists putrefaction. 2. By mild, diluting, subacid drinks. 3. By a free and constant use of aperient, diluting medicines, and such as prevent the formation of pus. 4. By bathing the feet twice a day, keeping luke-warm fomentations constantly to them, and applying epispastics to the soles of the feet and hams. 5. By a cool regimen, and, above all, by the admission of pure cool air; taking care, at the same time, to keep the cold from the inferior parts of the body:—all these things are to be done immediately, and at the very beginning of the disorder. 6. If the distemper proceeds too violently, opiates given at five o'clock in the evening, are of the greatest service; all the foregoing directions being observed.

A P H. MCCCC.

THIS second stage is followed by the third, namely, that of suppuration, which is gradually increased and perfected. In this stage, the now purulent pustules grow daily bigger, then ripen, turn white, become yellow, and burst on the third or fourth day after; then the whole fat and skin abound with a moveable pus, the skin dries externally, and inflames in those places where there are no pustules. Hence there arises a fever of the worst kind, attended with the worst symptoms, from an obstructed perspiration and circulation, from an irritation of the membranous and nervous systems, and an absorption of the pus by the veins. If this purulent matter mixed with the blood, circulates with it for any considerable time, it putrifies; and, as it happens to be deposited on this or that part of the body, produces the most dreadful effects, as deliriums, phrensies, quinies, peripneumonies, pleurifies, vomitings, dysenteries, inflammations of the liver, imposthumes, boils, swellings, and stiffnesses of the joints, abscesses, a tabes, phthisis, and numberless other disorders.

Then the whole fat and skin, &c.] This can never be the case, but when the pustules are very numerous, and, in a manner, occupy the whole surface of the body; for then the intermediate spaces between the pock are inflamed, become tense and painful. These circumstances alone are sufficient to excite a fever, as was observed at Aph. 382, No. 8.

But

But there is another cause sufficient to keep up this fever: it is this, the whole skin becomes imperforable, whereby a stop is put to the excretion of those humours which are usually discharged by the exhaling vessels; and the matter collected in the pustules, unless it can make its way out, will be resorbed by the bibulous veins, and mix with the circulating humours. From this resorption of the pus, arises that fever called *secondary*, which physicians so much dread, and of which so many persons, ill of the confluent small-pox, die on the 24th day of the disease, or later, after a total corruption of all their humours, and often a mutilation, even before they die, of different parts of the body. I have seen both eyes destroyed by it within a few hours, and the nose suddenly eaten away, before death had put an end to the misery of the patient. When the purulent matter is deposited on the brain, it produces an outrageous delirium, and certain death; if on the breast, a sudden suffocation; or, if it erodes the lungs, a decay, which is hardly possible to cure; if on the stomach and intestines, a vomiting; and, by eroding the intestines, a very dangerous dysentery. I have seen an hepatitis and jaundice follow a very bad confluent small-pox; but it was removed by a copious discharge of foetid stools, and succeeded by a dropsy, from which the patient at last recovered, with great difficulty; but never was the same person again.

When the resorbed pus is deposited near the surface of the body, or on the hands and feet, it is much less dangerous; but, even in this case, the patient often purchases life at a most extravagant rate. I have seen an incurable ankylosis in the elbows and knees, sinous ulcers very difficult to cure in the muscular parts of the upper and lower limbs, &c. produced by a similar cause.

A P H. MCCCCI.

BUT, should the variolous matter, in these circumstances, prove thinner and sharper, and the disorder more violent; the skin, fat, and flesh are eaten into, and there ensue ill-conditioned ulcers, broad and deep, often penetrating to the very bones, and ugly scars.

Sometimes the variolous matter, when resorbed into the blood, acquires so great a malignancy, as to produce a fatal sphacelus in the part upon which it fixes. *Morton* takes notice of a mortal sphacelus of the clavicle, maxilla, and tibia. Hence the bones are often eaten away with a caries. *Parré* saw this happen to the *sternum*, the bones of the arms and legs; and had likewise the mortification to see the heels, the fingers and toes, the nose and eyes, destroyed in the same manner. Whoever considers, that this sharp matter may be deposited upon all and singular the parts of the body, will readily perceive, that it may produce a very great variety of desperate diseases.

A P H. MCCCCII.

IN this third stage of the small-pox, we are to promote the discharge of the pus to the external parts, and the expulsion of it from the internal; which is done by relaxing the skin with warm emollient fomentations, constantly and carefully renewed; by continually washing and gargling the mouth and throat; by drinking plentifully of warm, cordial, detergent, aperient,

ent, and antiseptic decoctions ; by mild, diluent, emollient, and laxative clysters, daily injected, and retained as long as possible ; by flesh broths, seasoned with salt and acids ; by a moderate use of some generous wine ; and by stilling the more violent symptoms by a prudent use of opiates.

Having thus considered every particular relating to the small-pox, it may not, perhaps, be amiss to say a word or two of certain symptoms which sometimes attend it, such as those which follow.

1. Convulsions, with which children and young people are pretty often seized in the stage of contagion, especially about the time of the eruption, are generally without any bad consequences ; and *Sydenham* always expected a favourable sort of small-pox when convulsions preceded the eruption. But convulsions may be productive of very strange disorders, if they be violent and frequent, as was observed in treating of the epilepsy. I have known the making infants lie upon one side or the other, instead of placing them on their backs, prove of great service.

2. Sudden and very troublesome pains. In a girl of seventeen, ill of the distinct small-pox, and that too attended with very few pustules, I could not help being surprised to find her suddenly seized at the time of suppuration, with violent pains in the soles of the feet, which in a short time extended over her legs and thighs, and threw her into convulsions, and afterwards seized the arms. I had read in *Diemerbroek*, that sometimes great pains and itchings are felt in the palms of the hands and soles of the feet, about the time of eruption or maturation ; the thickness of the skin in these parts preventing the pustules breaking out. In this case he advises to foment them with warm milk and water, or some emollient decoction. *Rhazes* observed something of the same kind, and advises

scarification, or immersion in warm water. I therefore had the pained soles of this girl fomented with the most emollient decoctions, but without any relief. On the contrary, the pains returned again, and threw the poor creature into convulsions; I then gave her *liquid laudanum*, and repeated the dose with so good an effect, that the pains abated, and she went thro' the disorder without any further uneasiness.

3. A swelling in the inguinal glands. I once met with a swelling of this kind at the time of maturation, in a boy ill of a dangerous confluent small-pox; but he had the good fortune to recover, and the swelling went off with the disorder.

Suppression of urine. This symptom was observed by *Sydenham*, during the state or decline of the distinct small-pox. He tried some diuretics in this case, but found nothing answer better than getting the patient out of bed, and making him take two or three turns about the room. He likewise takes notice, that placing the patient on his knees, without taking him out of bed, will have the same effect. Clysters will often succeed on such occasions. *Mead* advises the *sal glauberi*, as it evacuates by stool and urine at one and the same time.

4. Bloody urine. This is universally looked upon as a dangerous symptom, whether it arises from a dilatation of the renal tubes by the violence of the fever, or from a dissolution of the blood by the putrid stimulus. This symptom, however, seems to arise oftener from an acrid and dissolved state of the blood. This was the opinion of *Hoffman*; but he thought, that in this case, whey and butter-milk were of more service, than all the most elaborate medicines that art could prepare. These, no doubt, correct acrimony, and resist putrefaction; but, it must be allowed, that sometimes the solution of the blood is so great, as to require more powerful remedies. *Mead* gave alum, bark, and the spirit of vitriol, in the common drink of the patient, with now and then some

some spoonfuls of tinct. rosarum. He likewise applied blisters when a delirium happened, having learned by experience, that blisters may be safely used, even when the urine is bloody. Sydenham gave spirit of vitriol freely, till the pustules were completely come out, and whatever else was necessary to incrassate the blood, such as *terra lemnia*, *bolus armen. lapis hæmatitis*, &c. Holland gives us the case of a man in the confluent small-pox, who was seized with a phrensy on the 10th day from the eruption, attended with an high fever and bloody urine, and also with a discharge of blood, from the *mouth, nose, eyes, and ears*, and even from the *pustules* themselves. As neither bleeding, strong styptics, and paregorics, did him any service, he took forty drops of oil of vitriol in a large vehicle, and the same quantity half an hour after. The consequence was, all these hæmorrhages immediately ceased, he fell asleep, and awoke without delirium or fever, and at last recovered.

Besides, other disorders, may happen to be combined with the small-pox, which do not owe their origin to it, but to some other kind of epidemic miasmata. The following case seems to favour this opinion; a boy, three years old, was inoculated for the small-pox, at a time when the measles epidemically prevailed. Four days after, a *phyma* appeared in the wound. On the 7th, the fever peculiar to the measles; and on the 8th and 9th a morbillous eruption. The fever then abated by degrees till the 12th, when it increased again, and, on the 14th, a distinct small-pox appeared. Here the morbillous and variolous contagion existed together, yet each produced its own disorder; nor does it appear that they disturbed one another, as the variolous contagion did not act, till the morbillous had, in a manner, done acting. Other epidemic constitutions have been observed to produce anomalous symptoms in the small-pox, as appears from the observations of *Morton, Sydenham, Mead, and Huxham*.

As the pustules in the small-pox sometimes deform the face, physicians should use every method art can dictate, to prevent such disagreeable consequences. Sydenham ordered the dry pustules to be anointed with oil of sweet almonds, that they might fall off the sooner: but he was cautious of tampering, lest the face should be disfigured, as he had observed oils and liniments do more harm than good. I have known fresh cream used with success; but I have seen most benefit by anointing the scabs when they begin to dry with suet, or such other soft substances, or fomenting them with emollient decoctions, and then covering the ulcerous skin with a mild plaster.

A P H. MCCCCIII.

IF the disorder proves very violent, if the matter in the pustules, be a gangrenous ichor instead of pus, and the skin almost entirely covered with them, it is plain, that then the disorder must be attended with very considerable evils, and even unavoidable death. But all this will appear still more evident to those, who have learned from anatomy, that it is not the external skin alone that is covered with these pustules, but likewise the eyes, all the membranes of the nose, the linings of the mouth, the aspera arteria, the bronchia, the œsophagus, stomach, intestines, liver, spleen, and lungs. Hence they will understand what has been said, and perceive what is necessary for the cure, and judge likewise, whether the violence of the disease, the loss of so many lives, in spite of the present practice, should not excite every good physician to exert his utmost skill in the beginning of the disorder;

disorder; for, by the common method of treatment, none escape but such as would have recovered, if nothing had been done for them. Inoculation seems to be sufficiently certain and safe.

From what has been said, it is evident, that the small-pox is a most dangerous disease, and that the cure of it is sometimes attended with the greatest difficulties. It begins with a violent inflammatory fever, which often terminates in a gangrene, especially in young robust people, who are full of humours, and have lived high. If pustules in the external skin, so readily occasion a fatal gangrene, how much more dangerous must that gangrene be which invades the internal parts of the body? Many physicians were once of opinion, that the small-pox had its seat only in the external skin; but nothing can be more evident, than that the inside of the nose, mouth, fauces, and œsophagus, swarm with pustules; nay, that it even invades the stomach, intestines, liver, spleen, and all the internal viscera. For this reason, a prudent physician will not be over-ready to pronounce a patient in no danger, even when the disease has a pretty mild aspect.

The physician should therefore carefully observe, when the pustules begin to appear, whether all the symptoms, which attend the state of contagion, cease entirely, or abate considerably, on the eruption of them, and whether any new ones arise. Thus, in the beginning of the disorder, there is sometimes a delirium, which, if it ceases when the pustules appear, portends no mischief; but if it continues beyond this period, or even returns again, there is great reason to fear, that the meninges of the brain are beset with pustules; and if they are numerous, the patient is in the greatest danger.

If

If the voice becomes hoarse, and the respiration difficult, after the pustules appear, there is reason to fear that the lungs are affected; whence there follows a peripneumony, that sometimes carries off the patient in a few hours.

From a consideration of all these circumstances, the great *Boerhaave* concluded, that nothing should be omitted in the beginning, to prevent the pustules from becoming numerous, and to divert the variolous matter from the upper parts of the body by bathing, and other contrivances of art.

The method of treating this disease, when *Boerhaave* wrote his aphorisms, did a great deal of mischief. The patients were put to bed, and almost smothered with bed-cloaths, even in the hottest weather. Warm sudorifics were given, and no drink, or but very little, was allowed, and that too spoiled by the addition of sheeps dung. It was thought a crime to bleed, and even murder to give a lenient clyster. Purging was esteemed a fatal remedy, and the physician dared not so much as to mention it, so that he was only an idle spectator, while the good women about the sick did what they pleased. Hence, our author says, "that by the common method of treatment, none escape, but such as would have recovered, if nothing had been done for them."

Inoculation seems to be sufficiently certain and safe.] Although *Boerhaave* approved of inoculation, yet it does not appear that he ever advised any one to try it, either in *Leyden*, or any other town in *Holland*; but contented himself with saying, that it was not attended with any great danger in *Asia* or in *Greece*; that it had succeeded in *England*, but that more trials were wanting to ascertain its utility. About eighteen years after his death, inoculation became pretty common, and disputes arose about the expediency of it, which were carried on with heat on both sides.

But though the celebrated author of these commentaries, saw from undoubted experiments and observations

servations, the great safety and utility of inoculation, yet to the last he kept from recommending it.

Of EPIDEMIC DISEASES.

A P H. MCCCCIV.

ABOVE all things, it ought to be observed, that the diseases of the fluids hitherto described, though they appear the same to inattentive observers from their names, most of their symptoms, and in some measure from their event, yet from an hidden quality, and from phenomena, scarcely noticed except by the skilful and experienced practitioner, at the different times of their increase, height, coction, crisis, event, and method of cure, they often differ widely.

Hitherto we have treated of internal disorders, and have fully described their history and method of cure; it now follows, that we consider the change sometimes observed in diseases, that does not depend on the peculiar and individual genius of each distemper, but upon another cause frequently very latent; whence it happens, that a disease attacking many people, may be very different from a disease of the same name that has been before observed. Thus it was observed, at Aph. 566, that a fever is epidemic, or common, or peculiar to this or that person; and, it was said, at Aph. 584, that the causes of fevers were likewise two-fold, because they are either peculiar to each individual, or universal, or common to many, generally owing to the same air, food, or way of life. *Vernal intermittents* are altogether different from *autumnals*, and their nature, symptoms, issue, duration, and cure are utterly unlike. The *ephemera*,
the

the most simple of continual fevers, passes through its different stages without the least danger; yet the British *ephemera* made great havock. Both diseases were called by the same name, their duration was the same, but they terminated very differently.

I have seen an epidemic pleurisy, that would not yield to the common method of cure, nor bear plentiful venesection, but happily cured by a free use of emollient decoctions, and frequent doses of oleaginous medicines. *Sydenham*, who carefully investigated the genius of diseases, discovered, that in a particular epidemic constitution of the air, the intercurrent diseases participated of the genius of the reigning epidemic, although entirely different therefrom in their own nature. For instance, while the small-pox rages epidemically, continual intercurrent fevers have many symptoms in common with the small-pox during the state of contagion, but want those which attend the eruption and suppuration. A symptomatic pleurisy attended the fever which prevailed in the winter of 1675; but all those pleuritic patients, on the first attack of the disease, complained of pains in the head, back, and limbs, which were the surest symptoms of the then epidemic disease.

Hippocrates seems to have called this latent cause of epidemics το σίσιον, and excellently confirms the doctrine of *Sydenham*. His words are: "A physician ought to know the nature of diseases of the same kind, how much they exceed the strength of the body, and should also learn to discover, if any thing more than human be in the disease; he ought, besides, early to observe the difference of the diseases which daily reign among the people, nor be ignorant of the state of the seasons."

A P H. MCCCCV.

AND therefore require a very different administration of the six non-naturals, a different method of cure, and different remedies.

As there is so remarkable a difference in diseases of the same name, while this or that epidemical constitution prevails, it is plain, that the method of cure ought to be different. An example will make this clear: a pleurisy requires plentiful and repeated venesection; but if the reigning epidemic will not bear plentiful and repeated bleeding, a prudent physician will direct venesection more sparingly in the cure of that disorder. We must likewise carefully attend by what emunctories of the body nature expels the morbid matter when duly concocted; for, if the epidemical disease is usually terminated by critical sweats, there is reason to hope, that the pleurisy may be terminated also by sweat, which sometimes naturally happens. In this case, warm, watery, and thin drinks should be freely given, to dispose the body to that critical sweating.

A P H. MCCCCVI.

YET the cause of this variety is so latent, that physicians have not been able hitherto to deduce it from any sensible abuse of the non-naturals.

Hippocrates has wisely said, "that diseases partly arise from our way of living, and partly from the air which we breathe;" and has likewise taught us how epidemical

epidemical diseases may be distinguished from others :
 “ when many are seized with the same disease at the same time, the cause is chiefly to be attributed to what is common, and made use of by all. This is certainly what we draw in in inspiration ; for that our way of living is not the cause, is apparent, since the disease attacks both young and old, women and men, those who live freely, as well as those who live abstemiously, those who live upon flummery, as those who eat bread, and those who use much exercise, as those who use but little ; therefore the cause is not to be ascribed to the way of living, since those who make use of every kind of food, are equally seized with the same disease.” For this reason, he advises people not to change their manner of living, while popular diseases rage, as the cause of the disease does not depend thereon ; he only recommends a spare diet, the utility of which is confirmed by faithful observations. *Caius*, an Englishman, declares, that the English who delighted in a plentiful table, and a variety of food, were more than others, and indeed almost solely attacked with the sweating sickness ; while the Scots, inhabitants of the same island, and the French, who were there at that time on an embassy, wholly escaped the distemper. From all which it appears, that errors in diet, may predispose the body to be more easily affected by any occasional or exciting cause, but can never alone occasion an epidemical disorder.

A P H. MCCCCVII.

AND yet, as epidemic diseases attack many at once, and may be avoided, or excluded by wind or fire, it is generally believed, that their causes reside in the air.

Innumerable observations seem to prove, that the miasmata, which produce epidemic diseases, reside in the

the air; for, whatever the state of the air may be, whether heavy or light, or infected with morbid impurities, it enters into every part of the body.

By wind.] Lord *Verulam* asserts, that "wind is air itself in a state of motion;" but air in motion carries along with it every thing which it contains. Hence depend the different effects of the same wind in different parts. Thus, as Lord *Verulam* observes, "the south wind, which in England is rainy, in Africa, brings fair weather, but great heats, not cold, as many have asserted; yet in Africa it is healthy enough, with us pestiferous, if it continues long without rain." By the wind, therefore, an infinity of particles may be carried from one place to another, and indeed even to the most distant; for all that exhales from living or dead animals, vegetables, or minerals, spontaneously, or by art, is diffused in the air, and the whole may be dispersed on every side by the motion of the air.

Winds may do good as well as hurt.—They do good, if they disperse the noxious matter which produces epidemic disorders. They hurt, if they carry from one place to another this noxious matter, not in a dispersed, but in a collected state. This is confirmed by medical observations.

Notwithstanding, this benefit may always be expected from the wind, namely a diminution of the epidemic virus in the place where it rages, and those particles in the air liable to putrefaction, will not so easily become putrid, as in air in a quiescent state. *Sorbuil* observed, that during the plague at Vienna, the wind did not blow for three whole months. *Huxham* likewise observed, that epidemic diseases were much lessened after storms and heavy rains.

By fire.] Fire has wonderful properties: it enters all bodies, separates mixed bodies, and unites distinct, penetrates through every thing, and is every where present. The old adepts saw, that all vegetable and animal substances were destroyed by fire,

and knew that even fossils might be entirely dissipated into the air, or be vitrified by an intense heat. But here we only treat of fire, as far as it destroys, changes, or even dissipates noxious qualities in the air.

Fire certainly increases the action of many bodies, and their activity may be augmented by fire, unless the noxious quality, which resides in the air, could be either absolutely destroyed or dispersed by fire. *Mead*, though he believed, that some morbid affections of the air might be corrected, and wholly removed by fire, was yet apprehensive, that after the distemper had once broke out, the violence of it should be increased. In the last plague, burning of fires was of fatal event. *Erndtelius*, first physician to the King of *Poland*, relates, that the plague was much exasperated by a fire which broke out by accident in the suburbs of *Warsaw*, even when it had almost ceased. See what has been said of the methods of correcting noxious air, at Aph. 605, No. 4, and *Lobb* on the plague.

A P H. MCCCCVIII.

AND in the air, rather from the inexplicable variety of exhalations contained in it, which mixing with our fluids, or by their stimulus, disorder our bodies, than from any remarkable change in the sensible qualities of the air, as observation teaches.

That the cause of epidemics resides in the air, is evident enough; but what that is in the air, which produces epidemical diseases, is a matter of great difficulty to determine. *Sydenham*, who took so much pains to discover the cause of epidemics, candidly acknowledges, that although he remarked, with the
utmost

utmost care, the different constitutions of different years, as to the manifest qualities of the air; yet he lost his labour, and observes, "that years perfectly agreeing in the sensible qualities of the air, were nevertheless productive of very different tribes of diseases, and *vice versa*." I myself remarked, for ten years, three times a day, the height of the barometer, thermometer, the course and strength of the wind, the quantity of rain, changes of the air, diseases, &c. yet I did not thereby gain the least knowledge of the origin of epidemic disorders. For many diseases, as *Sydenham* observes, arise from the sensible and manifest qualities of the air, such as pleurisies, quinries, &c. which generally attack from sudden heat, immediately following intense cold; but these diseases, *Sydenham* calls *intercurrents*, which are entirely different from the reigning epidemic. Yet he observes, "that the above-mentioned qualities of the air may more or less dispose the body to this or that particular epidemic disorder; and the same may be affirmed of any error in the non-naturals," sect. 1. ch. 2. In another place, he explains this doctrine more clearly, and says, "it should be observed, that though the manifest qualities of the air may not make so strong an impression upon a particular constitution, as to be the productive causes of the epidemic diseases, which are properly referred thereto, as these arise from some latent and inexplicable disposition thereof, yet they have a power over them for a time; and hence epidemics are admitted or excluded, as the manifest qualities of the air, favour or oppose them; but the universal constitution remains precisely the same, whether these promote, or in some measure retard it," sect. 4. ch. 4. Repeated observations confirm this.

But the noxious exhalations, which are mixed with the air, are altogether different from air, and producing epidemical diseases, sometimes arise from causes sufficiently manifest. Thus, when substances, liable

to putrefaction, are cast on shore by the sea, and putrify, particularly in the summer season; the neighbouring inhabitants justly attribute to this cause, the lasting epidemic fevers with which they are afflicted. Stagnant waters in lakes and marshes, after inundations, produce the worst epidemic diseases, which immediately cease when the stagnant filth is removed.

However, although putrid exhalations are noxious, and produce epidemic disorders, yet it is no ways certain, that all epidemic diseases are produced by corruption; for that latent malignity in the air, which mixes with the fluids, or by its stimulus disorders the body, cannot always be reduced to any particular species of acrimony. Thus tanners and fell-mongers, who continually breathe an air contaminated with putrid exhalations, continue healthy; nay, air replete with putrid effluvia has proved a remedy for the plague. *Malouin* observes, that while the plague raged at *Lyons* and *Marseilles*, the most populous parts of the city, where the streets were narrow and dirty, were less affected with the distemper, than others which were more open and clean. During the plague at London, the physicians advised all the privies and shores, which were usually kept close shut, to be opened, and this foetid stench being diffused through the city, the plague abated. On the contrary, it was stopped at Athens, by sprinkling the streets with wine. Hence we may conclude, that the causes of epidemic diseases floating in the air are various, and that exhalations from the earth may be a cause of them in various places.

Huxham remarks, that the earth, when frozen, emits few or no exhalations; but when a thaw comes on, after a long frost, epidemic fevers break out. To these exhalations, writers have ascribed the plague of *Venice*, which followed the earthquake in 1343, and they might be infectious. On the contrary, when the plague raged at *Oczacow*, on the very day the distemper began to abate, a violent earthquake happened.

Did

Did any thing exhale from the earthquake antidotal to the contagion of the plague? or, did the former contagious exhalations cease after the earthquake? Truly it does not seem impossible, that exhalations should be emitted antidotal to the plague, and others also that might render it still more deleterious. *Sor-bait* observes, that in the suburb of *Vienna*, called *St. Udalrich*, a spring famous for its salubrity, at the time of the plague, exhaled an infectious stench, by which several thousands perished; and that during the vintage, when the liquor was fomenting, the plague which then raged about the *Moselle*, was miraculously suppressed; for then a penetrating vapour exhales from the fomenting wine, which is every where diffused through the air.

Many other things also, by their salutary effluvia, enervate the latent causes of epidemic diseases. *Hoffman* tells us, that *Hall*, before the use of coals, "was subject to many malignant diseases, petechial fevers, and dysenteries." Places near storehouses of spices, have been uninfected by the plague, and shipwrights, employed in ship-building, have escaped the infection, being perpetually in an air impregnated with the effluvia of pitch and tar. But after all, it seems best to confess with *Sydenham*, that these diseases "proceed from a latent and inexplicable alteration of the air, infecting the bodies of men, and not from any peculiar state or disposition of the blood and juices, any further than an occult influence of the air may communicate this to the body."

A P H. MCCCCIX.

AND yet, which is astonishing, scarcely excite diseases, but by human contagion.

This unknown, and frequently inexplicable something, residing in the air, which, by mixing with our

fluids, or by its stimulus disorders our machine, seems to diffuse itself very widely. Are therefore all epidemic diseases contagious, and propagated by contagion from one human being to another? This can hardly be possible, for, when double tertians, which in their paroxysms emulate continual fevers, though numbers are seized with them, I never observed that such patients propagated infection. Even such epidemic fevers, attended with the worst symptoms, and had strong signs of malignity, were not contagious. The fevers of 1756, from the noxious effluvia of marshes, though attended with exanthamata, petechiæ, gangrenous blotches on the surface of the body, inflamed parotids, and other symptoms of malignity, yet were not contagious; for those who lived in a more healthy air, though they received into their houses persons ill of these epidemic fevers, were not themselves infected. If those who lived in a purer, even in a mountainous air, descended into this morbid valley, they were soon taken extremely ill; but upon their return home, did not spread the contagion.

Epidemic diseases may, therefore, be produced by common causes residing in the air, which, tho' they attack many at the same time, yet are not communicated by contagion from one to another. This has induced some to believe, that epidemic diseases, even the plague itself, were not propagated by infection, but solely depended on a certain noxious quality in the air. An anonymous author has endeavoured to prove this doctrine, by a number of specious arguments, in a work, intituled, *The Plague no Contagious Disease*. But, it is certain, that diseases may be produced from manifest causes, and occasion such a degeneration of the humours, as to propagate by mere contagion, diseases originally bred from obvious causes; so that the healthiest people, who were never exposed to the original causes, shall immediately fall sick

Aph. 1410, &c. EPIDEMIC DISEASES. 39
sick of it. The camp dysentery is a proof of this;
so is the inoculation of the small-pox.

A P H. MCCCCX.

THESE are the diseases which are properly
called *epidemical*.

A P H. MCCCCXI.

AND the nature of them is known by the
rules laid down at Aph. 11, 12, and 13.

The rules laid down in these aphorisms, take place
in every disease: but how, and with what cautions
they may be applied to epidemic diseases, will be
shewn in the following aphorism.

A P H. MCCCCXII.

BUT a due consideration of the following cir-
cumstances will greatly assist the physician
in curing a new epidemical disease. 1. By re-
ducing it to some known disease, which it most
resembles. 2. By observing the disease which
invades, and chiefly prevails about the vernal
and autumnal equinoxes. 3. By attending to
the spontaneous phænomena which precede, ac-
company, or follow the death or recovery of the
patient, a more favourable, or a worse state of
the disease. 4. By remarking the benefit or
mischief arising from every thing done to the
patient, whatever is taken into, or discharged

out of the body. 5. By comparing the cases of a number of patients ill at the same time. 6. By abstaining from all remedies that are doubtful, stimulate or produce a change in the fluids, or darken the genius of the disease.

1. This is the first thing to which a physician ought to attend. For instance, if in the autumn, or earlier, a great many people are seized with fevers in any place, he must carefully enquire whether these fevers belong to the class of *continuals* or *intermittents*; for autumnal fevers often resemble *continuals*, on account of their longer and doubled paroxysms; nevertheless, their genius and method of cure differ widely. However, they often suddenly change into intermittents, when their violence remits. As soon as the physician has observed this in two or three patients, he may safely conclude, that such fevers, tho' they resemble *continuals*, are yet a kind of intermittents, and require the same method of cure. The utility of this observation is apparent. But although these fevers may be of the intermittent kind, yet they greatly differ from simple intermittents, in the number and violence of their symptoms.

2. Sydenham, from diligent observation, learnt, that the nature of epidemic diseases is changed twice a year, namely, about the vernal and autumnal equinox. He indeed owns, "that though diseases may possibly arise in any other season of the year, yet he would have them referred either to spring or autumn, according as they approach thereto respectively; for sometimes the temperature of the air conspires so much with an epidemic disease, as to produce it before its time, and sometimes opposes it so much, as to make it appear later, even in persons disposed to receive it;" and then remarks, "when I mention spring or autumn, I do not precisely mean the vernal or autumnal equinox, but take it, in a larger compass."

pass." Thus vernal epidemics sometimes appear early, as in January, and gradually increasing, come to their state about the vernal equinox, after which they visibly decrease, and at length disappear about the summer solstice. Thus also the measles frequently begin in January,—vernal tertians in February,—and in like manner disappear in the summer solstice. *Sydenham* likewise judiciously observes, that as many of these diseases appear in the same year, some one or other of them reigns over the rest. Hence the reason appears, why it is said in the text, that regard must be paid to the epidemic which chiefly prevails towards the vernal or autumnal equinox, in order to acquire a true knowledge of the epidemic constitution which then reigns.

But while any particular epidemic disease prevails, other diseases happen besides, which do not properly depend on the reigning epidemic constitution. *Sydenham* calls these diseases *intercurrents*, though sometimes they rage epidemically. These are known, by their proceeding immediately from some manifest qualities of the air : for instance, when a sharp frost, which has lasted a long time, and continues till late in the spring, is suddenly succeeded by warm weather, pleurisy, quinsies, and the like diseases usually arise, whatever be the general constitution of the year. These are essential diseases, and must be treated as such ; but there are others resembling these *intercurrents*, which are not essential diseases, but only evident symptoms of the reigning stationary fever, and are, therefore, not to be treated as essential diseases, but only as symptoms of the stationary fever.

Sydenham, in order to distinguish *symptomatic* from *essential* disorders, carefully observed the symptoms attending the reigning stationary fever. If he found these symptoms in a beginning pleurisy or quinsy, he judged these diseases were not essential, but symptomatic. To prove this, he mentions the symptomatic pleurisy that followed the fever which prevailed
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in 1675; for all that were seized with the pleurisy, were attacked in the beginning with a pain in the back, head, and limbs, which were the most certain symptoms of the fever that preceded the pleurisy. But when either of these *intercurrents* is the essential disease, it attacks in the same manner in all years, having nothing at all in common with the then prevailing stationary fever. The season of the year, in which *intercurrents* happen, confirms the truth of this diagnosis. Thus, if a pleurisy attacks one towards the end of the spring, or the beginning of the summer, it is an *intercurrent* disease, but *essential*, and wholly distinct from vernal epidemic fevers; because this season of the year is favourable to inflammatory disorders: but if the same disease arises at the time of an autumnal epidemic constitution, there is reason to suspect, that the pleurisy participates of the genius of the reigning epidemic, and therefore its cure is to be attempted, by having respect to that epidemic.

3. An attention to the spontaneous phenomena of diseases, may throw great light upon doubtful cases; for, if the physician discovers, what symptoms precede or attend a change of the disease into a worse state, he will endeavour to prevent or alleviate them. But if such symptoms appear, as presage a recovery or amendment, he will wait with patience, and not disturb the salutary efforts of nature to subdue the disease. The continual remittent marsh-fever, so accurately described by *Tozzetti*, though attended with the most malignant symptoms, was, nevertheless, wonderfully cured, without the assistance of art, when little purulent eruptions broke out on the skin.

But the genius of the disease is also sometimes changed from some acceding cause, although the epidemic may continue as before. *Sydenham* discerned this in an epidemic fever, in which the febrile matter affected the head, and brought on a comatous stupor, especially when the cure was attempted by sudorifics. The fever, though various remedies were
tried,

tried, gave way but very slowly. Whence that excellent physician, after having directed bleeding in the arm, a blister between the shoulders, two or three milk clysters, and forbidden the use of animal food and spirituous liquors, left the disease to itself to go off spontaneously; and thus the disease, safely, tho' slowly abating, at length went off entirely. But while this comatous fever, raged epidemically alone, the warm weather, protracted beyond its usual time to the end of October, was suddenly succeeded by cold and moist weather, which brought on general coughs, so as to seize whole families at once. The coughs had this particular distinction, they excited a fever, and translated the morbid matter, which, in the epidemic constitution, attacked the head, sometimes to the lungs, and sometimes to the pleura; whence peripneumonies and pleurisies were frequently the consequences of such coughs. Hence *Sydenham* concluded, that these diseases were not *essential*, but partook of the nature of the prevailing epidemic; and the method of cure confirmed this truth.

4. This is the doctrine of the *juvantia* and *ledentia*, i. e. what makes the patient better or worse, which is of great use in physic; for every patient does something, takes something, or tries something, to alleviate his disorder. While various things are tried, some are observed to do good, others to do harm. *Sydenham* acknowledges, that he at first treated a continual fever in the same manner, which in former years had proved successful; but he soon discovered, that this new enemy must be attacked with other weapons. What *Columella* says of agriculture, may be aptly applied to medicine. "Use and experience are the best masters in the arts; nor can any science be learned without committing faults; for where any thing, improperly managed, turns out wrong, it is avoided in future, because it has disappointed our expectations, and points out to us the right method of attaining the summit of the art."

5. By comparing the cases of a number of patients, we may come to the knowledge of many obscure diseases; for, if in many seized with the same disease, some symptoms, especially in the beginning, are always the same, the genius of the distemper may be certainly known, although it may sometimes vary in its appearance, from difference of constitution, way of living, &c.

6. This rule is of the greatest consequence in practice; those therefore act rashly, who, in the beginning of an epidemic disease, not sufficiently known, disturb the body with powerful medicines. The prudent *Sydenham*, when any new fever arose, proceeded slowly, especially in the use of powerful remedies, and carefully observed its nature and progress.

A P H. MCCCCXIII.

ALL these circumstances observed with great attention, form the curative indication.

By these rules, the nature and genius of all epidemic diseases may certainly be discovered, and the right method of cure found out. But best of all, if physicians, living in the same place, would meet together about those times of the year, when the epidemic constitutions usually change, and compare their several observations together.

The S T O N E.

A P H. MCCCCXIV.

WHEREVER a body, entirely indissolvable, is lodged in any part of the human body, a calculous crust, in a greater or lesser quantity, is soon applied to it.

As the sentiments of physicians, concerning the origin and cause of the human calculus, have been so various, it will be worth while to consider the experiments made by the celebrated Boerhaave, to discover the nature and origin of the calculus. For this purpose, he chose the urine of a healthy man, in whose family there had never been the least suspicion of an hereditary calculus disorder.

He put the urine of this healthy person into a clean cylindrical glass, about the diameter of one's middle finger. The urine was made about twelve hours after his last meal, and a good night's rest. The urine was yet warm, of a yellow colour, pellucid, and homogeneous. He examined it with a microscope, but could not discover in the bottom of the glass, which was very clear, nor any other part, the least heterogeneous substance.

This urine was left in the open air, which was rather warm, (Fahrenheit's thermometer being 72 degrees) and the mouth of the cylindrical vessel was covered over with paper, to keep out the dust that floats in the air. In about seven minutes and an half, the urine was again inspected with a microscope; it now appeared full of corpuscles, which did not seem to have an even and equal surface, but resembled little flocks of wool: these corpuscles were shoo'd pretty rapidly up and down, so that as some descended, others ascended. From this experiment, the parts
seemed

seemed of equal weight. Soon after something whitish began to appear in the urine: at the same time were observed *striae*, or streaks, resembling those which appear when spirits of wine are gradually poured into water. While this new phænomenon was examining by the microscope, a cloud was gradually formed out of these *striae*, which at first hung pendulous through the whole cylinder, but gradually receded from the sides, and at length was collected towards the axis. In the urine, this is called the sublimamentum or pendulous substance.

Those little flocks, which before moved thro' the urine, began now to disappear, and were collected into a little cloud, which becoming thicker every moment, began to descend, and at last subsided in the cylinder, which was six inches in height, to the distance of about half an inch from the bottom. There was about an inch distance between the upper part of the cloud, and the surface of the urine.

But this whole cloud, viewed with the microscope, contained very minute shining concreted particles, which, at the same time, began to adhere to the bottom and sides of the glass. These minute particles, at first white, in about half an hour grew reddish, then became of a deeper colour, and in about the space of two hours, were of the colour of the sand which adheres to the bottom and sides of chamber-pots, wherein urine remains for some time. However, these small rudiments of a forming calculus, were so blended with the cloud, that they would not fall to the bottom, but appeared in the form of a brownish cloud; but by degrees, t'ey were so increased in bulk, as to fall to the bottom. At the same time, similar moleculeæ concreted on the surface of the urine, which, upon lightly shaking the glass, soon fell to the bottom; and the moleculeæ round the sides of the glass increased in size, so as in twenty-four hours to be as big as grains of mustard seed.

They were of the figure of a rhombus, and other parallelopiped moleculeæ ran between them, redder and larger

larger than the former ; some square particles ran between, but very few.

From these experiments, it appears, that the moleculeæ concreted in the urinary cloud, are not so large as those formed on the sides and bottom of the glass ; and also that the rhomboidal moleculeæ here and there affixed themselves to each other at the sides of the cylinder, so as to become of a larger size, from six such corpuscles mutually attached to each other. This rhomboidal figure of the rudiments of a calculus, is confirmed by observation.

It has been observed, that the calculous sand thus forming, is of a red colour in the urine of healthy people. In some it is yellow, greyish, white, and sometimes, but very seldom, black ; and many have believed, that the worst stones are produced when the sand is of any other colour than red.

A calculus, therefore, is produced by granulation or chrySTALLIZATION, not from different elements in the body, or from a confused mixture of concreting humours, but by the application of similar elements. These rudiments of the stone also exist in the urine of the healthiest persons, which, if they are secured together with the urine, before they have separated therefrom, and begin to coalesce, in no respect injure health ; but, as this separation is sooner made in some persons, more slowly in others, it appears, that those are most likely to be afflicted with the stone, in whom this separation of the sand soonest takes place. Does not sometimes this separation immediately happen in the kidneys and in the bladder ? Certainly it does ; for, I have seen excreted nephritic sand frequently voided with the urine, and instantly subside, while the urine was yet hot.

This sand concreting, even in the healthiest urine, may be called *native calculus*, from which no person whatever is free, but which seems then only to be feared, when it quickly concretes in the urine. To what size this native calculus may grow, does not appear

appear certain; but, it is probable, that it does not naturally grow to any large size. I left some urine for several months in the same vessel, which was encrusted with gravel every where round the bottom and sides, but each grain did not exceed the size of a mustard seed. Whence the rudiments of the calculus, seceding from the urine, seem capable of adhering to the internal surface of the bladder, and thus causing an incrustation, but not of gathering into a large stone, unless from the accession of some other cause. But as the bladder, when the urine is evacuated, is so greatly contracted, as scarcely to leave the least cavity, it hence seems, that all concreting sand or gravel, which began to adhere to its inner surface, must be rubbed off. But *Drelincourt*^a gives us a curious observation of an encrusted bladder, knotty and callous in several places, with hard scirrhus tumours, and a quantity of loose sand or gravel adhering to no particular part. Now, such a bladder could not possibly contract itself, and thus carry away the gravel, which, separated from the urine, began to adhere to its sides: this therefore affixed itself to those scirrhus tumours, where all contraction of the bladder had ceased. *Morton*^b, in a consumptive person, found not only in the kidneys and gall bladder a great many stones, but even the emulgent veins lined with a calculus incrustation.

I have seen calculus sand, not only in the substance of the placenta, but also in its convex surface, which adheres to the uterus, rough with the adhering sand. What we read in *Parey*^c is still more surprising, who, in two women, whom he delivered of dead children, found the secundines filled and distended with sand, like that which is found on the shores of rivers. But it is to be remarked, that this quantity of sand had been formed in the space of a few months, and yet had continued separate from each other,

^a Opuscul. Med. page 160.
hist. v.

^b Phthisiolog. lib. 3. cap. 14.
^c Apud Spachium, page 421.

other, and not being united together into a large stone. Hence, although the rudiments of a calculus exist, not only in the urine, but also in the other humours of the body, yet it does not appear, that from these alone, without the accession of some other cause, a large stone can easily be produced. The calculous grains, indeed, readily adhere to an expanded surface, but remain separate, nor are reciprocally united together, so as to increase to a large size. We shall therefore consider what observations and experiments teach us concerning the growth of the stone.

If the smoothest quill is dipped in healthy urine fresh made, it acquires a crust of very soft sand which adheres to it; and when fresh urine is again poured on it, increases in quantity. Thus the stone may be generated out of the body, when another solid body is put into the urine, to which, as to a basis, the elements of the stone are collected and adhere.

The celebrated *Nuck** has demonstrated this by a happy experiment. Having opened the abdomen of a live dog, he drew the bladder out of the wound, and made an incision in the bottom with a sharp knife. Through this wound he introduced a little round wooden button; and as soon as the fibres of the bladder were in a state of contraction, he replaced the bladder in its natural situation, and sewed up the wound. The animal, for the first two days, seemed dull and sick; but in a little time the natural appetite and alacrity returned, and the only uneasiness observed, was a more frequent inclination to make water than usual. Some weeks after, he dissected the dog in his private theatre, "and the button being extracted, appeared covered over with a calculous crust." From which he concludes, that in like manner a stone, first formed in the kidneys, and then carried into the bladder, constituted the *nucleus*, to which afterwards the calculous substance grows; and thus,

VOL. V.

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* Adenograph. Curios. page 80.

in length of time, the stone frequently acquires a monstrous size.

Many observations are related in medical history, which clearly shew, that various foreign bodies may afford the basis of a future stone. But there is not any body, to which the elements of a calculus are more easily united, than to a calculus itself. Whence, if a small stone formed in the kidney, should descend through the ureter into the bladder, unless it be soon voided, it will, in a short time, increase in bulk by the daily apposition of fresh calculous particles; for which reason, a renal stone is most frequently the basis of one in the bladder; and *Denys* declares, that all whom he had cut for the stone, had first felt symptoms of it in the kidneys.

Hence it appears, that no great danger is to be apprehended from gravel in the kidneys, which concretes in healthy urine, unless it fixes itself to some indissoluble basis. It may incrustate the internal coat of the bladder, but will scarcely ever concrete into a stone of any size. A man, subject to nephritic complaints for many years, was at length seized with most acute pains in his loins, a violent fever, attended with convulsions, which at last carried him off. Upon opening the body, a hard tumour was found in the right ureter near its opening into the bladder, in which was contained a stone of an irregular figure. The bladder contained very little urine, and its sides were incruusted with small gravel. Tho' there was here a calculous diathesis, yet no stone was formed in the bladder.

Stones, therefore, grow from elementary principles, which, under the appearance of a fluid, previously existed in the humours; and when separated from each other, unite and form little granulations. When these meet with an indissoluble basis, they fix themselves thereto, and form a stone, which continually increases in bulk, from the application of fresh calculous matter; nor does there seem to be placed any limits

mits to its growth, as long as the receptacle, in which it is contained, is capable of further distension. *Ruyfch*^a gives us the case of a young man, in whom a stone was found that filled the whole cavity of the bladder, so as to leave room for only a few drops of urine. The stone, therefore, is generated successively, and not instantaneously, as *Helmont* imagined, who was of opinion, that a large one might be formed in a moment, by a certain petrifying spirit that pervaded all things.

But numerous and certain observations teach, that the elementary principles of the stone are met with in all the humours of the body. Both the great and small cavities of the body exhale a vapour of an urinous smell, which probably contains the elementary principles of the stone, as well as the urine; because, in all these cavities, stones have been found. The ventricles of the brain are filled with such a vapour; and *Wepfer*^b found stones in the *plexus choroidæus*, and in the *pineal gland*. *De Graaf*^c likewise relates, that he had seen, above twenty times, in persons who died both of natural and violent deaths, stones in the *pineal gland*. But what is still more amazing, stones have been found in the heart, in its ventricles, and in the pericardium. Stones have also been frequently found in the stomach and intestines, in the liver, gall-bladder, biliary ducts, and even in the cavity of the uterus, and in the fallopian tubes.

The subject-matter of the stone has occasioned much dispute. *Galen* took it for granted, "that calculi were generated in those bodies, in which the sediment of the humours was concreted by violent heat." Afterwards the whole medical school adopted this opinion, and endeavoured to confirm it by various arguments. They saw the mucus of the nostrils, by drying, form pretty hard scales, which could not be wiped off without difficulty; they observed,

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^a Observat. anatom. chyr. pag. 82.
& hist. sicut. aquat. pag. 116.

^b Hist. apople^c. pag. 9.
^c De succe. pancreatu. pag. 113.

that like substances were brought up by coughing from the lungs. Hence they judged the inspissation of mucus by the heat of the body, or that of the kidneys and bladder, was sufficient to account for the generation of the stone; on which account, they advised their patients not to heat the kidneys by lying too warm; nay, many imagined it sufficient to produce the stone, if a person sat at table with his back to the fire. But mucous concretions dissolve in water, which stones do not, but however must do, if they consisted of inspissated mucus.

Others observing, that cheese was made from milk, which, by age, became extremely hard, deduced from thence the origin of the stone. But the hardest cheese is softened by fire, and is dissolved by boiling, which is not the case with the stone. Besides, in oxen and horses, which never feed on milk or cheese, stones have been found of prodigious size, and *Denys* declares, that he had cut a great many for the stone, who had never tasted a bit of cheese. It is certain, indeed, that calculous disorders are very common in Holland; and it is likewise certain, that the Dutch are very fond of cheese, and salted, smoaked, and dried flesh and fish; and that many physicians have ascribed the frequency of the stone to this diet. But *Denys*, who lived seven years in the East Indies, was surprised, that in the large city of Batavia, he could find only two patients who were obliged to submit to the operation of lithotomy; yet a great quantity of cheese is imported into this city, and the Dutch, who come there from Europe, live upon the hardest bread, cheese, and salt provisions, to which they add acid, or very heating sauces. The water they drink, flowing from the neighbouring mountains, is impregnated with earthy and stony particles; yet, notwithstanding this coarse diet, very few of the numerous inhabitants are afflicted with the stone.

The constant use of water, impregnated with earthy, calcareous, stony particles, is usually reckoned

one of the causes of the stone. *Hales*^a to whom the medical art is so greatly indebted, has remarked, that in some places, the water commonly used, when boiled, incrustates the vessel with a kind of stony matter, which being deposited in the bottom of the vessel, and affixed all round the sides, as tartar usually is, he calls tartareous; and, as at Paris, the water incrustates the pipes thro' which it is conveyed, he assigns this as the reason, why the Parisians are more afflicted with the stone in the bladder than the inhabitants of any other city. But water is seldom found that contains no heterogeneous matter, or, when boiled, does not incrustate the vessel. The Caroline hot baths quickly incrustate with a hard stony matter, whatever bodies are immersed therein; yet they are extolled by many for their lethontriptic virtues. If the stone proceeded from this cause, calculous patients would be far more numerous.

Upon considering all the phænomena observed in the urine of the healthiest person, it seems, that the original cause of the calculus is not received into the body, but naturally exists in the fluids of the most healthy. This matter, while it continues divided, as it were, into its elementary principles, in no respect injures the body, disorders none of its functions; it only does mischief, when its elements, united together, concrete, otherwise it spontaneously passes out of the body. Hence the matter of the stone is not something degenerating from an healthy state, but inseparable from perfect health, and always existing in the habit, as appears from the experiments of *Nuck* and the observations already recited.

The stone, therefore, is a production of the human body, and belongs to the animal kingdom; and, chemically examined, affords the same products, as the bones, horns, hides, hairs, &c. of animals. From this consideration, *Lobb* concluded, "that persons violently afflicted with the stone and gout, ought en-

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^a *Hæmastat.* pag. 236.

tirely to abstain from animal food ;” because the flesh of all animals contains the constituent principles of the gout and stone. But the human body, from the joint action of the viscera and vessels, has a power of changing the aliment into its own nature. Whence, although we should live entirely upon a vegetable diet, yet the elementary particles of the stone would exist in our urine ; and if our hair, nails, &c. were distilled, they would yield the products of animal bodies, and not of vegetables.

Besides, animal food disposes our humours to putridity more than vegetable food. The celebrated *Hales*^a has remarked, that a greater quantity of calculous matter separates from the urine when it is verging towards putridity ; and, in this respect, a diet of acrescent vegetables may prove serviceable to calculous subjects. It does not seem, however, that an immunity from the stone, or a diminution of that already formed, can be promised from such a diet ; as in healthy urine, the elementary particles of the stone begin to unite long before it grows putrescent. The only advantage that can be expected from a vegetable diet is, that the urine thereby less disposed to putridity, may deposite less calculous matter, and thus the stone be more slowly enlarged ; an effect by no means contemptible. See Aph. 1428.

Boerhaave^b has demonstrated, that of necessity, small particles are continually abraded from the solids, and then are mixed with the fluids, circulate with them, and are at last expelled the body. If similar particles were not daily restored to the body by nutrition, it would soon be destroyed. Even the substance of the bones is worn away and renewed, tho’ they are defended from all external attrition.

May not these abraded particles, incapable of returning with the fluids into the circulation, be accumulated in the part from which they were abraded, form gouty chalk stones, exostoses, &c. Tophaceous tumours

^a *Hæmastat.* pag. 218.

^b *Institut. med.* §. 435.

tumours are undoubtedly often found in the viscera, which contain a kind of chalky matter.

Since, therefore, the elementary principles of the stone are contained in the healthiest urine, and the abraded parts of the solids may be evacuated by urine, the cause of the stone is not, without reason, ascribed thereto; seeing that those elements may unite together, which before their union flowed in the urine; and therefore the matter of a calculus would nearly approach the nature of bone: this seems confirmed by many circumstances.

The celebrated *Fred. Hoffman* examined chemically human renal calculi of various shapes, colour, size, solidity, and weight; and the result of his observations was as follows;

He placed a renal stone, that weighed three grains, upon a burning coal,—it soon lost its yellow colour, and turned black, and immediately emitted a strong smell of volatile salt, without any visible smoke, and almost wholly consumed away, leaving only a little black matter, which was perfectly insipid, and caused no effervescence with spirit of salt. He threw into the fire as much as would lie upon the point of a knife of these calculi reduced into fine powder; the whole room was presently filled with a fetid volatile scent, such as usually proceeds from burnt horn.

The powder of these stones, boiled in water, rendered it white and turbid; the water inspissated by a gentle heat, left behind it a dry whitish substance of a salt, bitterish taste, which laid upon burning coals, emitted no smell, nor effervesced with an acid spirit, nor mixed with salt of tartar, yielded the scent of volatile salt. The powder left after boiling, being dried, diffused its former volatile fetid smell while burning, to such a degree, as to effect the whole company.

On some whole stones, as big as coriander seeds, he poured spirit of vitriol, and upon some others spirit

of salt, but they did not dissolve; little bubbles only were raised on their surface. Good aqua fortis being poured on them, in proportion of three times their weight, caused an intense effervescence, and instantly dissolved the stones; as did also strong spirit of nitre, but with a still greater effervescence. The turbid whitish solution seemed rather thicker, which, when fully saturated with oil of tartar per deliquium, effervesced, but nothing precipitated. This mixture was of a yellowish colour, transparent, and had a strong nitrous taste.

From all which circumstances, it appears, that renal calculi contain neither fixed alkaline salt, nor stony or calcarious earth, but a volatile alkaline salt, such as is extracted from animal substances.

Hoffman asserts, "that no fat, oily, or sulphureous principles enter into the composition of calculi;" but he says this on the credit of others. Hence greater credit ought to be paid to those, who describe what they have seen with their own eyes. *Starck*^a analysed a great many calculi; and it appears from his analysis, that oil enters into their composition. *Hales* likewise found, that oil was contained in human calculi, tho' in less quantity than in the blood and solid parts of animals. He likewise found in biliary and other human calculi, that above one half of their fabric consisted of air; nor could he ever extract, from any other animal, vegetable or mineral body, so great a quantity of air.

Lifter^b laid down as an undoubted truth, "that all water, at least fresh, either alone or mixed with sea water, contains a stony and truly metallic juice, commonly ferruginous or calcarious, on account of the vast plenty of both these metals dispersed throughout the bowels of the earth." He moreover observes, that all calculi were produced out of the circulation, particularly in places where a stagnation of the fluids took

^a Philosoph. Transact. abridged, vol. 3. pag. 179, &c.

^b Dissert. de humorib. pag. 331, & seq.

took place, and thence concluded, that then such metallic or calcarious particles, before dispersed, united together by attraction, and formed such concretions in the human body. As a proof of this fact, he declares, "that he extracted iron from a burnt human calculus with a loadstone, in the presence of the Royal Society." He therefore thought, that ferruginous particles, mixed with the juices, contribute to the generation of the stone. It is certain, as *Boerhaave* observes, "that iron grows almost every where, is daily consumed every where, and thus comes out of the earth, and returns to the same. How readily, and how often does iron, in a dissolved state, enter the human body? It is daily corroded by acids, when corroded, dissolves, and the solution may be drank." It is certain, that the ashes of vegetables and animals, contain particles that are attracted by the loadstone. But the learned are greatly divided in their opinion concerning the origin of the iron that is found in the ashes of vegetables. Some have thought, that these ferruginous particles did not exist in the vegetable, previous to calcination; the primary elements of iron being, in their opinion, earth, sulphur, and acid salts, from which, united by calcination, iron might be produced, which did not exist before. Others have maintained the contrary.

The celebrated *Gusman Galeatti*^b has endeavoured to put an end to this contest, by his own experiments. He burnt a quantity of vegetables that grew in the *Bolognese*, where no metals are found, and a quantity of plants that grew on the *Brescian* mountains, famous for their mines of iron. He found, upon a nice examination, that the ashes of the *Brescian* plants contained an hundred times more iron than those of the *Bolognese*. He found the same difference with respect to the quantity of iron found in the ashes of burnt animals that had lived in these different places.

^a Chem. vol. 2. 447.
& seq.

^b Institut. Bonon. tom. 2. pag. 109.

places. In the ashes of human blood, dried and burnt, this difference in the quantity of ferruginous particles did not appear, though some of the persons, from whom the blood had been taken, lived in the *Bolognese*, and others in the iron mines of *Brescia*, or in the neighbourhood thereof. But, upon closely investigating the matter, *Galeatti* discovered, that these miners, who lived on the *Brescian* mines, constantly lived upon food not the product of those parts, but fetched from a great distance, and likewise drank other waters, and not that which flowed from those springs, being of opinion that they were hurtful.

The sediment of the urine, dried and calcined, afforded more ferruginous particles than the ashes of burnt blood. *Anton. Badia*, principal professor of practical physic in the university of Turin, relates, that such a quantity of ferruginous particles was found in the urine of an hysterical woman; that, in the space of a day, some ounces might be collected; but she had taken a great many chalybeats, and even the filings of iron.

*Vincent Menghini** has demonstrated, by curious experiments, that ferruginous particles exist in the blood of men and animals; and that they are chiefly found in the red part of the blood. But, do these particles always exist in the urine? or, are they in such plenty as to afford a basis for the stone, and render it harder? Neither of these points seem to be ascertained.

Benedict. Staechel, a physician at Basil, in Switzerland, has proved, by very curious experiments, that a glue exists both in flints and human calculi; and that this glutinous matter is elastic; and is of opinion, that the non-elastic air, which *Hales* discovered in calculi, is kept entangled by this glue.

The last thing to be observed in these calculous concretions is, that they seem to have a great affinity to tartar of wine. One half of the human calculus con-

* Institut. Bonon. pag. 245. & seq.

consists of air; and *Hales* found such a quantity of air in the tartar of Rhenish wine, that it amounted to one third of the weight of the tartar. Air, extricated from the human calculus, and from tartar, loses more of its elasticity in a few days, than such air expelled from other bodies. A biliary stone, in the space of seven days, was dissolved in a lixivium of salt of tartar, in which also Rhenish tartar dissolves; but stones of the kidneys and bladder will not dissolve in this menstruum. The human calculus dissolves in spirit of nitre; so also does tartar. Both these are dissolved in oil of tartar, but far more slowly. Tartar owes its origin to the most transparent pure wine; the human calculus to limpid healthy urine. Tartar is generated on the sides, and in every point of the surface of wine; the same is also true of the calculus. Tartar is produced by a kind of orbicular incrustation; the surface of it next the liquor, is rough; that adjoining to the cask smooth: it is the same with the calculus. Tartar is hard and brittle, though it originally flowed in the purest wine, and weighs far less than flints and stones; the same holds good also with respect to the human calculi. Tartar cannot again be dissolved in wine, in which it concreted: thus also the human calculus, though it originally flowed in the urine, in a dissolved state, once concreted, will not again dissolve in urine. From this analogy, *Hales* has called the human calculus, *animal tartar*, by which it is properly distinguished from tartar of wine, which belongs to the vegetable kingdom.

A P H. MCCCCXV.

IF this happens in the kidneys, from the earthy particles of the blood desiccated, it becomes a renal stone, principally taking its rise in the extremities of the arteries, under the form of sand.

From the blood carried to the kidneys by the emulgent arteries, the urine is secreted, which, even in the healthiest person, contains the elementary principles of the stone. These arteries are pretty large, and quickly distribute their branches through the whole substance of the kidneys. They are also not far distant from the heart, whence the adjacent parts are compressed by the very diastole of the arteries; which compressing power will be augmented, as the stone, lodged in the kidneys, increases in size. From this perpetual alternate pressure, we see the reason why renal stones are sometimes so very smooth and polished. Besides the pulsation of these arteries, vibrates the urinary ducts, and promotes the expulsion of any particles that begin to concrete or adhere to those vessels. But if the obstacle, adhering in the urinary ducts, is not removed, by the pulsation of the emulgent arteries, then the adhering mass will be gradually pressed more closely together, and growing larger, the extremely sensible internal surface of the ureter, by the pulsation of the arteries, will be pressed against a hard stone; whence acute pain, and other symptoms that attend the nephritic colic.

Continual lying in bed, contributes to the formation of calculus concretions, or to their increase, if previously formed. For, as *Hales*^a has well observed, while we lie in bed in an horizontal situation, the descent of the urine to the bladder, cannot be assisted by

^a *Hæmatur.* pag. 228.

by the action of gravity. While one lies on the right or left side, the kidney of that side is lower than the bladder; whence the urine may easily be accumulated in the *pelvis* of the kidney, and the elements of the stone separate from the urine, as also in the ureters. Thus the progress of the urine into the bladder is retarded, and opportunity given for gravel to concreate, not only in the *pelvis* of the kidney, but also in the *bellinian* tubes: hence gravel is often found in these in anatomical dissections. For this reason, *Hales* advises people not to lie in an horizontal position, but with the head and body raised. By this position, the abdominal viscera press upon the kidneys, by which the secretion of the urine must be disturbed.

Very fat people generally are afflicted with the stone in the kidney, for in such, the kidneys lie, as it were, under a vast load of fat; and *Hoffman* was of opinion, that the left kidney was most frequently attacked with nephritic disorders, on account of the flexure of the gut *colon*, which is often distended with indurated *fæces* and *flatus*, and therefore compressed the adjacent kidney. For this reason, emollient clysters, as they promote the exclusion of *flatus* and hard excrements, are so serviceable in the nephritis; for thus the compressed kidneys are relieved. See the xith table of *Eustachius*.

A P H. MCCCCXVI.

WHICH by degrees increasing there, causes an obstruction in the kidney, chokes it up, and consumes its substance, expels it under the form of clotted blood, matter, caruncles, and bits of skin, and at last corrupts the whole, exciting bloody, purulent, fetid urine; and frequently inflammation, and exulceration of the adjacent parts.

A small

A small stone in the kidney, that has neither a rough surface or irregular shape, may lodge there a considerable time without much inconvenience; for stones have often been found in the kidneys after death, in subjects in whom there was not the least room to suspect their existence. But when a stone lodged there, from the accession of fresh calculous particles existing in the urine, becomes rough, and its spherical figure changed into an angular irregular one, the substance of the kidney may be contused, compressed, lacerated, inflamed, suppurated, and totally consumed. It is no wonder, therefore, that clotted blood, matter, caruncles, and bits of skin, are discharged with the urine, or that the parts adjacent to the kidneys are sometimes inflamed and ulcerated.

A P H. MCCCCXVII.

WHEN a stone, from what cause soever, is moved from the place of its formation, Aph. 1415, into the *pelvis*, and from thence into the ureter, its flexures, and narrowest parts, or its opening into the bladder, it often causes a suppression of urine, with inflammatory excruciating pain.

After a stone has passed from the kidney into the ureter, it has still a long journey to make before it arrives at the bladder. For although the ureters are lubricated internally with a slippery mucus, are round, capable of extension, compress the adhering stone by their elasticity, and thus promote its descent; yet, it is often observed, that stones lodge a great while in this passage, and increase in bulk. *Ve-
jalius* and *Eustachius*, have indeed delineated in their plates the ureters hardly at all inflected, and of the
same

same width throughout their whole length. But *Nuck*^a affirms, that they never are of equal diameter in every part, either in the male or female sex, but appear contracted in three or four, and sometimes in five different parts, particularly about their opening into the bladder. He gives the figures of some such contractions of the ureters in his *Adenographia*.

Besides, the ureters being extremely sensible, and violently irritated from the passage of the stone, especially if it is angular or rugged, contract and straiten their cavity; and thus impede the descent of the stone. Hence those troublesome symptoms which attend a violent nephritic fit, as watchings, fever, vomitings, &c. See what has been said of the nephritics at Aph 994, & seq.

But the greatest obstruction that the stone meets with in its passage through the ureters, is about their openings into the bladder, where they run for some distance between its coats, and become much narrower at their extremities. When a stone lodges in this part, if it wholly stops the passage of the urine, continually dripping from the kidneys, the ureters, by degrees, will be filled, as well as the pelvis. As this pressure of the urine increases in proportion to the height of the fluid, the stone is frequently forced from this strait passage into the bladder, after most exquisite pain, by the weight of the incumbent fluid.

When the kidneys suppurate, there can be no doubt, but purulent matter may make its way into the cavity of the ureter, which may be prodigiously distended with pus, if the passage through the ureter to the bladder, happens to be obstructed. *Ruyseh*^b has given us such a case, with a copper-plate of a monstrous ureter.

^a *Adenograph. curios. cap. 7. pag. 76.*
chyrur. pag. 87.

^b *Cbserv. anat.*

A P H. MCCCCXVIII.

WHEN the stone has passed through the ureters into the bladder, it is frequently happily expelled.

A P H. MCCCCXIX.

IF it remains in the bladder, it grows by the apposition of circles, like an onion.

Calculous matter adheres to any indissoluble substance, but most readily to a stone already formed. When, therefore, a renal stone gets into the bladder, unless it is soon expelled, it will afford a basis for a stone in the bladder, which frequently grows to a prodigious size. The stone increases faster in the bladder than in the kidneys, because it collects a far greater quantity of urine, and often retains it for several hours, while the urine, secreted in the kidneys, only glides over the calculus, and cannot stagnate about it, unless the passage of the urine through the ureter be obstructed. Add to this, that urine collected in the bladder, by the heat of the place, its retention, and perhaps by the resorption of its thinner parts, is higher coloured, more acrimonious, and more fetid, than when first secreted from the blood. Whence the quantity of calculous matter is the greater, and the urine is more disposed to putrefaction. This was the opinion of *Hales*, who has made so many curious experiments on the human calculus. *Hippocrates*^a seems also to indicate something of this kind.

In

^a De Aere, aquis & locis.

In persons afflicted with the stone, especially if it be large, the urine is much paler than that in health, and emits a very fetid smell. For the external surface of the stone, from the application of fresh calculous matter, is soft, and resembles a pumice-stone, and imbibes the urine, and retains it a considerable time; which putrifying, exhales a fetid smell, till, from the rolling of the stone, and the compression of the bladder, the surface is rendered hard and smooth. When this putridity in the urine once commences, all the urine that is brought to the bladder soon becomes putrid, and adds fresh matter to the stone. Hence the stone increases in size by the apposition of circles.

A P H. MCCCCXX.

THE nucleus, or original kernel, always remaining red, the other circles are red, white, ash-coloured, or bluish; and from these several colours, the degree of insolubility is estimated, as we learn from chemical experiments.

Renal stones are, indeed, usually of a reddish colour, but not always; whence it does not seem an absolute fact, that the *nucleus* of a stone in the bladder is always red; besides, the bladder is subject to inflammation, suppurations, and hæmorrhages, &c. by which diseases, indissoluble bodies may be produced in the cavity of the bladder, which may become the nucleus of a stone, and fresh calculous matter afterwards adhere to it in circles.

Whitish stones are almost always more brittle than others; ash-coloured harder, and stones of a blackish ferruginous cast, are generally hardest of all.

A P H. MCCCCXXI.

WHEN a stone stops in the bladder, it causes inflammation and its consequent symptoms; and also compression and frettings of the part, ulcerations, purulent urine, stranguries, an obstruction of the urethra, an impossibility of making water, except in a supine posture, an hectic fever, and consumption; and the stone is frequently immoveably fixed in the urethra.

We come now to consider the bad consequences that usually accompany a stone remaining in the bladder.

That the bladder may be inflamed from the frequent pressure and rubbing of the stone against its internal coat, when it is in a state of contraction, is pretty plain, especially if the stone should be rugged or angular; and, as the same cause is frequently renewed, and the acrid urine perpetually washes the inflamed part, there can be little hopes of a kind resolution; for this reason, a suppuration, and a discharge of pus will follow. Nor could such an ulcer be cured while the same cause continued.

It sometimes happens, that the inflamed bladder suppurates in such a manner, that the pus formed, does not fall into the cavity of the bladder, but adheres to the very substance of the thickened bladder. *Ruyſch* ^a saw such a case, and describes it with his usual accuracy.

Arëtæus ^b observes, that spasms or contractions of the nerves are to be feared in severe disorders of the bladder; and an observation of *Tulpius* ^c confirms it. But these symptoms rarely happen, but when the stone

^a Observat. anat. chirurg. pag. 82.
p. 23.

^b Morb. acut. lib. 2.

^c Observ. med. lib. 3. p. 182.

stone is angular and rugged, or when the whole substance of the bladder is consumed, as in the case related by *Tulpius*. An ulcerated bladder being constantly irritated by an acrid, putrid urine, must produce a frequent but almost vain inclination to make water, which is squeezed out by drops with excruciating pain.

That an hectic fever and consumption may arise from a stone in the bladder, is easily conceived; for calculous patients are so affected from pain, watchings, grief, uneasiness of mind, the dread of future evils, &c. that they absolutely become consumptive; but a consumption not only proceeds from an ulcer in the lungs, but also from one in any of the other viscera; for, if the purulent matter be not freely discharged, it becomes putrid, and may be absorbed by the veins, and infect the whole mass of humours with a cacochymy of the worst kind, or it may be thrown on some other viscus; and thus, in either case, produce an hectic fever, and the most dangerous tabes, namely, a putrid one. We shall lay down the proper means of treating a stone lodged in the urethra, when we come to explain Aph. 1434.

A P H. MCCCCXXII.

THE stone in the kidneys is known from an obtuse pain in the part, from bloody urine after riding over rough roads, or after violent exercise, especially in a carriage, from frequent voiding of stones, caruncles, purulent matter, and filaments.

It is sometimes very difficult to form the diagnosis of a stone in the kidney. *Galen*, *Sydenham*, and *Barbae*, have candidly confessed their erring in the diagnosis, even in their own cases. What hazard then

do those physicians run, who boldly declare their opinion, as if they were oracles. Yet an error of this kind is of no prejudice to the patient, as the diseases which resemble a renal stone, require the same method of cure in their attacks. Stones have sometimes been found in the kidneys, and indeed large ones, which were never suspected to have been there, either by the patient himself, or his physician. *Baglivi*^a relates two cases of this kind, and the same has been observed by others.

But although a certain diagnosis of a stone in the kidneys is not easily made, yet there are some symptoms, which raise a just suspicion, that a stone is fixed in the kidneys. If a person, born of calculous parents, frequently voids gravel or small stones. If a sedentary life, great corpulency, or lying long in bed, from a fracture, the gout, or other causes, should afterwards accede thereto, the physician may be satisfied, that a renal stone is to be apprehended; and, if afterwards the usual symptoms occur that attend a stone in the kidney, he may then affirm, that the patient has a renal stone.

Bloody urine is not, without reason, enumerated among the signs of a stone in the kidneys, since it frequently happens from that cause; but bloody urine alone, if other symptoms of the stone are wanting, cannot be considered as a pathognomic sign; for bloody urine is voided from other causes. *Hippocrates*^b has made the following remarks on bloody urine: "To make bloody urine seldom, and without pain, or a fever, is of no bad consequence, but removes a lassitude;" for, when it is made with pain, or a fever, then an inflammation, and all its consequences, may be feared. *Arctæus*^c likewise observes, "that some persons make bloody urine at particular stated times: a disorder of this kind is like the bleeding piles; the habit of the body is

^a Oper. omnia, pag. 118.
acut. pag. 53.

^b Prædict. lib. 2.

^c Morb.

is also the same." But frequent hæmorrhages from the kidneys are by no means without danger, especially if they return at stated periods; for then it is to be feared, that from too great a loss of blood, the body may be rendered cachectic; or, if the evacuation be suppressed, other dangerous disorders may ensue, especially those of the head.

The renal tubes, that secrete the urine, seem easily to be so dilated, as to transmit blood from an increased impetus of the fluids by violent exercise. Hence some persons make bloody urine after hard riding on horseback, or in a carriage over rough stones, in whom, neither before or afterwards, there ever was reason to suspect a renal stone. In such cases the urine is tinged with blood, but grumous blood is seldom or never voided with the urine. This disorder is easily cured by rest of body, and an emollient diet.

But the danger is greater, if bloody urine arises from a rupture of the renal vessels by hard riding, violent exercise, &c. In this case there is frequently pain, the hæmorrhage is much more violent; and, as *Areæus* observes, the blood coagulates into grumes, is voided with difficulty, and sometimes causes a dangerous suppression of urine, and lasting and almost incurable ulcers. If the blood slowly drops from the kidneys, through the ureters, into the bladder, it will remain there a long time, coagulate, and be squeezed through the urethra in the form of a thick thread, sometimes extended to an extraordinary length. A remarkable case of this kind is related in the *Académie des Sciences*, 1735, pag. 25, of a man who voided, at different times, such a number of these thread-like substances, as amounted in length to 825 Dutch ells.

Filaments, like hairs, swimming in the urine, are also reckoned among the signs of renal stones. *Hippocrates* takes notice of these filaments in his aphorisms, and says, that they are excreted from the kid-

neys. *Aegineta* likewise observed these little filaments or hairs in the urine, and thinks they are voided when the kidneys are in a state of ulceration.

We shall next consider the symptoms which attend, when a renal stone passes into the pelvis or ureter. *Hippocrates*^a enumerates most of these signs, "There is an acute pain in the kidney and loins, and in the testicle of the affected side; a frequent inclination to make water, and, by degrees, a suppression of urine comes on; when the gravel passes through the urethra, a violent pain is felt there; but when he has voided it with the urine, the pain ceases. There is also a stupor or numbness of the thigh of the same side; and when the pains are very violent, a vomiting of a greenish humour." *Aretæus*^b observes, that the pains in the loins, about the psoas muscles extend as high as the middle ribs, and so much resemble those of a pleurisy, that many have taken them for pleuritic pains. Hence it appears, that the most obvious signs of a stone in the kidney, moved from its place, are sudden pungent pains, rather in the side than in the back, attended with nausea, vomiting, inquietude, and a perpetual changing of the body from place to place. These symptoms shew that the stone is not over large; for large renal stones bring on bloody urine, but do not excite a nephritic fit. By what means a nephritic fit is to be treated, will be hereafter shewn, when we come to speak of the cure of the stone.

A P H. MCCCCXXIII.

THAT there is a stone in the bladder, is known from the pain both before, in, and after making water, from the urine being discharged only by drops, white, with a mucous, thick,

^a De affect. intern.

^b Morb. Diuturn. pag. 53.

thick, heavy sediment in great quantity; from an itching at the end of the penis; from a tenesmus at the time of making water; by introducing the finger into the anus; by the catheter, and by the symptoms enumerated at Aph. 1421.

It is not an easy matter to distinguish a stone in the bladder. I have known the most experienced lithotomists puzzled a great while; nay, some have ingenuously confessed, that they have been mistaken, as many symptoms, that are reckoned signs of a stone in the bladder, may be produced also from other causes. *Denys* visited a patient, who for many years had every symptom of a stone in the bladder, and so severe, that he could not think of introducing the catheter to search the bladder for a stone, but advised him to be cut as soon as possible. However, he attempted to search him, but could not introduce the instrument. To discover the cause of this impediment, he put one of his fingers into the anus, and felt the *rectum* compressed by a large hard tumour, as if the whole bladder was ossified. He then pushed the catheter with all his force into the bladder, and immediately purulent matter issued through the hollow tube of the catheter, to the amount of almost a pint and a quarter; and after a very careful examination of the bladder, no stone could be found. The patient at last recovered.

Denys moreover observes, that sometimes instead of a stone, he has found the bladder callous, and even cartilaginous; and adds, that he found this most frequently in women, who were thought to have the stone. In a person, who had been afflicted with most, if not every symptom of the stone, the bladder was found scirrhus and hard, and not only filled the whole *pelvis*, but rose some fingers breadth above the *os pubis*. From all which it appears, that it is some-

times difficult to form a just diagnosis of a stone in the bladder. All those symptoms are now to be considered, that are usually observed in calculous patients, and are therefore to be reckoned diagnostic signs.

From the pain both before, in, and after making water.] While the stone continues small, it cannot greatly disorder the bladder; but when it is lodged in its neck, it then becomes extremely painful, especially if it is angular or rough. Large stones are not so easily nor so frequently forced into the neck of the bladder; but if it is by the first effort to discharge the urine, then before the urine is evacuated, a violent strangury and pain come on: if at first the urine be partly discharged, and afterwards the stone, propelled with the remaining stream of the urine, be fixed in the neck of the bladder, then the same symptoms ensue in making water, and the urine is suddenly stopped, or is squeezed out drop by drop, with a violent strangury, between the stone and the neck of the bladder. If after the urine is evacuated, the sphincter of the contracted bladder be shut, this excruciating *strangury* continues a great while after the urine is evacuated.

But where the stone is larger, and cannot so easily be forced into the neck of the bladder, the urine is not so easily obstructed; but then, as *Aretæus* observes, "the patient is neither exempt from pain, nor a sense of weight, though he may discharge his urine freely."

Le Dran gives us the following diagnosis. "When a small stone lodges in the neck of the bladder, the pain ceases after the first drops of urine come away; when the stone is large, the greatest is felt while the last drops are evacuated; but when the strangury arises from some disease of the coats of the bladder, the pain continues all the time the urine is evacuating. However, if a small but sharp stone sticks in the neck of the bladder, it seems as if the pain must
also

also last the whole time of making water, since the urine forces the sharp stone against the neck of the bladder.

From the urine being discharged only, &c.] That is, where the stone, either by its situation, prevents the discharge of the urine, or from its bulk, hinders the contraction of the bladder. In this case, there is almost a constant strangury, sometimes attended with such excruciating anguish, that the patient loses his senses.

White, with a mucous thick, heavy, &c.] This diagnostic sign is of great moment, and is almost always present when a large stone is contained in the bladder. An incredible quantity of viscid glutinous matter is voided with the urine, but not intimately mixed with it; for, at the very time the urine is discharged, it falls to the bottom of the chamber-pot, a pale stinking urine floating over the surface of it. If the urine be cautiously poured off, this sediment remains behind; and if the vessel be tilted, it will not run off in part, but the whole cohering mass will fall over the rim at once.

Some have judged this sediment to be pus; but in a man, who had been several years afflicted with the stone, and who evacuated a great quantity of this glutinous substance, though three stones, upon dissection, were found in his bladder, yet it was not ulcerated. It is certain, that a rugged stone may wound the bladder, and occasion an inflammation, and its consequence a suppuration, and true pus be voided in the urine; but that purulent matter is mixed with the urine by shaking the vessel; this mucous viscid sediment will not, for this reason, I am of opinion, that it is a different substance from pus.

The pelvis of the kidneys, the ureters, the bladder, and urethra, are lined with a mucus, that prevents these parts from being irritated or injured by the acrimony of the urine. In an inflammation of these parts, this mucus is secreted, both more viscid, and in greater

greater quantity. Now, when a large stone is lodged in the bladder, it is constantly irritated, and most of all, when the stone is rough or angular; hence the great quantity of mucus, that calculous persons void with their urine; for, if that viscid sediment was true pus, the ulcer must be very large to produce such a quantity of matter. *Helmont* maintains the same opinion.

I must own, that very able lithotomists are of a different opinion, and consider this viscid mucus as true pus. *Palucci*, describing the case of a man, who voided a large quantity of white mucus with his urine, but so viscid, that it would hardly separate from the bottom of the chamber-pot, and had an intolerable stinking smell; whence he concluded, that there was a large ulcer in the bladder, the man being afflicted with calculous complaints from his infancy, and from whom he had extracted a large stone that weighed above four ounces. But does it seem credible, that one could have lived so many years, with a large ulcer in the bladder, that had also eroded the rectum?

Besides, there are properties in this mucus, which shew that it is altogether different from pus, or matter properly so called. *Beverwyck* observed, that when this viscid mucus was discharged by patients who had a stone, he always found in the dead body, the bladder fleshy and thickened; when in other calculous patients, who voided thin limpid urine, it was membranous, as in its natural state. In all the thickened bladders of calculous subjects that I have examined, I have never discovered the least marks of an ulcer.

The ancient physicians thought that the stone was generated from a pituitous humour hardened by heat. The illustrious *Harvey* maintained this opinion, and confirmed it chiefly by this argument, that this mucus, if exposed to the air, would be in a short time changed into stone. *Beverwyck* kept for four years, in an open glass vessel, some of this mucus, but found a powder

powder like that of rotten wood, which had not the least appearance of hardness or solidity. However, he spread some upon a sheet of white paper, which indeed hardened, but yet might easily be rubbed between the fingers into a rough gritty powder.

Denys mentions a patient, who used to dry this mucus in a shade, and then cut it into pieces, which hardened like a calculus. *De Haen* saw, after the operation of lithotomy, "a putrid glue adhere to the corners of the wound, which, in 24 hours, formed real little stones;" and the same glue, collected in filtering paper, became a thick calcarious substance. Whence it again appears, that this viscid sediment is different from pus. He further observes, that he always found more or less of such a calcarious substance in the mucus of persons afflicted with the stone. Are the earthy particles abraded from our solids, mixed with this viscid, while the urine carries along with it such particles as enter into its composition? or when a similar calcarious crust sticks to a stone already formed, is it produced by the urine, or by this viscid mucus; in both which the stone is immersed? Undoubtedly stones have been extracted from the bladder, whose exterior circles are friable as lime, and crumble to pieces when grasped by the forceps.

Lithotomists have observed, that calcarious stones are of very quick growth, but very friable. A great quantity of this viscid mucus, replete with calcarious matter, which is voided with the urine of calculous persons, may lessen the apposition of such matter to the stone; but if a lesser quantity of this mucus is secreted, or if it contains a lesser quantity of calcarious matter, a greater quantity may grow to the stone; and its size be quickly increased.

The celebrated *Hales*^b judged, that nature, by lining the urinary passages with mucus, indicates the use

^a Ratio medend. vol. 6. p. 207. & seq.
pag. 220.

^b Hæmatur.

use of emollient and mucilaginous remedies, to prevent the increase of the stone. Indeed, the internal surface of the bladder is, by this means, defended against the acrimony of the urine, and perhaps the incrustation thereof by calcarious matter. *Hales* macerated human calculi in warm water, and found their surfaces covered over with mucus. *Stacchel* thought this glutinous matter elastic, and that every thing capable of restoring elasticity to the air confined in it, is a dissolvent of the stone. But many circumstances still remain to be investigated, concerning the natural properties of the urine, and this viscid matter. For instance, whether may not only this mucus, but also the urine, contain calcarious matter? What properties does this calcarious matter possess? or what species of stones does it most readily adhere to?

That the urine sometimes contains a great quantity of such, or at least a similar matter, we learn from an extraordinary case related in the memoirs of the Royal Academy of Sciences for the year 1747, pag. 56.—A man about 56 years of age, in other respects healthy, began to be tormented with slight fits of the gout, that returned at intervals; at the same time, he became so impatient of cold, as to have his bed warmed, even in the midst of summer. Of a sudden he began to make water like milk, which, when it stood an hour, became limpid, and deposited a whitish sediment a quarter of an inch thick. This sediment was at first of the consistence of tempered clay, and might be cut like soap; but, in a few hours, acquired the hardness of chalk or plaister. He made this urine for eight or nine months, without the least inconvenience, and in that time voided between sixty and seventy pounds of such matter. This milky urine ceased in one night, and never more returned; notwithstanding, he found no difference with regard to his health, either for the better or the worse.

By

By an itching, &c.] Sometimes also a pain is felt there, but an itching more frequently, and often a very troublesome one.

By a tenesmus in making water.] For, by straining to force out the urine, the stone is pressed towards the neck of the bladder, by which the *rectum* is compressed and stimulated.

By a finger introduced into the anus.] In the male sex, nothing is interposed between the stone and the finger, except the coats of the gut *rectum* and the bladder, so that the stone may easily be felt, if it is of any size. But where the bladder, or the rectum is thickened, it is more difficult to feel the stone.

By the catheter.] Every surgeon knows the use of the catheter, and the cautions required in the use of it.

A P H. MCCCCXXIV.

A STONE in the kidneys requires to be lessened, expelled, and to be reduced to such a state as not to do mischief.

But it is not always in the power of the physician to lessen the bulk of the stone, and then expel it. It is only in his power to alleviate, or remove the symptoms; and this is what is meant by reducing it to such a state as not to do mischief. These three curative indications are to be separately considered.

A P H. MCCCCXXV.

THE first is effected, by keeping the patient to a moist, thin, soft, and moderately salt diet, by drinking of water, or such like fluid, and yet keeping up the vital powers.

For

For as the stone increafes, white, freſh, calculous matter is continually applied thereto; if by any means whatever, the ſeparation of the elementary principles of the ſtone could be obtained from the urine, the ſtone would not be increafed in ſize, and there would be ſome hopes, that the ſurface of the ſtone might, by degrees, be abraded by the urine, and its bulk in time leſſened according to the common proverb.

Gutta cavat lapidem, non vi, ſed ſæpe cadendo.

In the *Materia Medica* under the preſent aphoriſm, the principal things are enumerated, that may be uſed in diet to answer this intention. But ſee Aph. 1428.

Helmont blames phyſicians who forbid calculous patients the uſe of ſalt, and affirms from experience, that ſea-ſalt never hurts them, but rather prevents the growth of a ſtone. He likewiſe commends the ſpirit of ſea-ſalt taken in white wine, as an effectual remedy to remove the mortal ſtranguries of old people, and as a lithontriptic. The experiments of *Stacchel* ſeem to confirm *Helmont's* opinion.

By drinking of water, &c.] In human ſtones, and thoſe of animals, nay, even in flints, there is a glutinous matter that diſſolves in water, which, when extracted, leſſens the coheſion of the other conſtituent principles of the ſtone, whence they are more readily ſplit aſunder. If therefore water, or any thin aqueous liquor is drank in large quantities, the renal ſtone is continually macerated with a warm watery urine dripping on its ſurface. *Baglivi*^a recites the ſecret of *Zecchius*, namely, a pint of warm water drank immediately before dinner, by which many have been perfectly cured.

Whey made of the milk of animals fed upon graſs alone, is an excellent remedy, as it contains, beſides a great quantity of water, the ſolvent virtue of graſs,

so effectual in dissolving biliary concretions. But many physicians have dreaded a general weakness by such a soft diet, and the plentiful drinking of watery liquors. But this evil is trifling, compared to the tortures of a renal stone, and is easy to be removed afterwards; yet *Boerhaave* considered a languor in this case as a good omen.

And yet keeping up the vital powers.] For, if these are strong, no hurt can follow the copious use of watery liquors; if weak, there is reason to fear that the waters might stagnate, be collected in the cavities of the body, and produce a dropsy. See Aph. 1220.

A P H. MCCCCXXVI.

THE second is obtained by relaxing the vessels with baths, clysters, and emollient liniments; by lubricating the passages with moist, soft, and oleaginous medicines; by opening them with opiates and anodynes; by forcing the stone forward with gentle diuretics, and by gentle motion.

In the *Materia Medica*, there are formulas of emollient remedies proper for this purpose, and others of the like kind may be easily contrived,

With opiates and anodynes.] Enormous tortures frequently ensue, when a stone in the kidney begins to move from the pelvis into the ureter, which must be alleviated by opiates, lest, from want of rest, and the violence of the pain, the patient should be wholly exhausted. Besides, the ureter being spasmodically contracted, opiates remove the sense of pain, as well as the spasm, and thus the passage is opened.

By forcing the stone forward by, &c.] Some have been of opinion, that the stronger diuretics might force

80 The S T O N E. Aph. 1427, &c.
the stone through the ureter into the bladder; but an increased secretion of urine by strong diuretics, can never effect the protrusion of the stone, unless it entirely fills up the passage of the ureter, and thus prevents any urine from passing by, then the part of the ureter above the stone is distended, and the stone pressed on by the incumbent column of urine; but this pressure increases in proportion to the height, and the protrusion of the stone then depends only upon the pressure of the incumbent fluid, not on the accelerated motion of the urine. For this reason, no good can be expected from strong diuretics; on the contrary, they may do hurt, by irritating the pained parts, inflame the same, and render the urine more acrimonious.

By gentle motion.] But not till the passages are relaxed, as far as art can, by emollients and oily remedies, used both internally and externally.

A P H. MCCCCXXVII.

THE third is obtained by obviating the symptoms; the inflammation by bleeding, and other proper remedies; the pain by anodyne emulsions; the ruggedness of the stone, by oily, saponaceous, and glutinous medicines.

A P H. MCCCCXXVIII.

FOR no great dependance can be placed on the specific lithontriptics hitherto discovered.

To cure a stone in the bladder, such a remedy is wanted, as mixed with the urine, would dissolve the concreted

concreted particles of the stone, by destroying that band by which they cohere, and be again dispersed in the urine, and afterwards discharged with it. *Helmont* has excellently described the qualities of such a remedy. "It should, says he, be readily changed into urine, that it may reach the affected part. It should have the power of solving the cohesion of the stone. It should possess this specifically, and not from second qualities. It should be subtile, that it may afar off destroy its object." But as no menstruum has hitherto been discovered, capable of dissolving the human calculus, without destroying the parts in which it is lodged, physicians began to consider, whether the stone might not be so changed as to break into smaller pieces, and thus be more easily expelled the body. The human calculus is not a simple homogeneous body; for, examined chemically, it affords the same products, as are extracted from the other parts of animals, namely, volatile salt, water, and oil; a black friable *caput mortuum* remaining, which, all the thick pitchy oil being consumed by an open fire, leaves an earth no longer cohering together.

Hence it was, not without reason, imagined, that if one or more of the constituent parts of the stone could be separated from the rest, then the cohesion of the other parts must be lessened; and thus the stone, which before was hard, be rendered friable, and easily broken to pieces by a slight force. Now, as the volatile salt was extracted from the calculus by fire, and as it quickly made it escape, the separation of this from the other parts, was especially expected; and, as quick-lime, mixed with sal ammoniac, immediately emits a most subtile, volatile, alkaline spirit, that diffuses itself in the air, and the same also happens if it be mixed with urine^a, it hence seems, that quick-lime had long ago been thought of as a remedy for the stone.

Vol. V.

G

Tho.

^a Boerhaave Elem. Chem. pag. 315.

Tbo. Bartholine^a says, "that it is evident, from the authority of *Basil Valentine*, and others, that nothing is more useful in curing the stone than spirit of quick-lime; and I have often experienced, that lime-water, prepared with the calcined shells of oysters and muscles, commonly dissolve calculi into a mucilage, if they are digested together some days in a gentle heat." However, he observes, that the lime-water ought to be very strong. He likewise relates, that *Dickinson*, a famous English chemist in the last century, "extols in calculous complaints as a most noted remedy, the distilled waters of the antinephritic herbs, boiled some time with egg-shell lime thoroughly calcined."

But *Hales* has demonstrated, that air is firmly united to the substance of vegetables, animals, and minerals, and constitutes a considerable part of their bulk. More than one half of a calculus was mere air; but what is more wonderful, the non-elastic air contained in a stone, the bulk of which was not above three quarters of a cubic inch, when expelled by fire, soon became elastic, and filled the space of 1515 cubic inches; and therefore the volume of elastic air, was to that of fixed or non-elastic air contained in the calculus, as 645 is to 1. What an enormous difference!

If therefore the air can be expelled from a calculus, its size must not only be lessened, but also the cohesion of its parts weakened, and so be rendered friable. But all calculi do not, with equal facility, part with this fixed air, as appears from various experiments made by *Lobb* on lithontriptics. He is likewise persuaded, that calculi may be dissolved by every thing capable of separating and expelling the particles of air. *Stacbel*, a famous physician at *Basil*, in *Switzerland*, has made many ingenious experiments to discover the nature of flints and animal calculi; from all which, *Lobb* concluded, that the stones
of

^a Epist. Med. cant. 4. epist. 76 & 92.

of all animals abound in an elastic glutinous matter, which has some analogy with that which water extracts from quince-seeds; and that all those things, which are able to restore the air to an active state, are dissolvents of the stone.

This union of fixed air with the other parts, constituting a vegetable or animal substance, is frequently so strong, as to require a great degree of fire to dissolve its connection; and such bodies may be preserved unchanged for ages. On the other hand, when fixed air is separated by fermentation or putrefaction, the cohesion is lessened, nay, sometimes entirely destroyed. But if fixed air can be restored to the bodies from which it has been separated, the cohesion is restored.

Macbride^a steeped a piece of putrid flesh, that stunk intolerably, and was almost dissolved into a filthy sanies, in some liquor that was then in a state of fermentation. In the space of an hour, the stench was greatly diminished, and in five hours wholly taken away, and the flesh, that before scarcely had any cohesion, became again firm. Fermenting liquors certainly emit a great quantity of air, that was before fixed. This is what *Helmont* called the *gas sylvestre*, which, when drawn in with the breath, in a large quantity, instantly kills both men and animals.

Calcarious earths abound with this fixed air; but when deprived of it by strong calcination, acquire a caustic power, and become soluble in water. As soon as the fixed air is restored, this caustic property is lost, and they again become indissoluble in water. *Macbride*^b proves this by a most curious experiment; the whole apparatus of which he has described in a copper-plate. See also Dr. *Black's* experiments on fixed air concealed in bodies^c.

G 2

Now,

^a Experiment. essays, pag. 131, & seq. ^b Lib. 6. cap. 59. Ibid. pag. 50 & 244. ^c Essays & observ. phys. & lit. tom. ii. pag. 187, 225.

Now, as so great a quantity of fixed air is contained in a calculus, as to constitute above one half of its bulk, there are great hopes, that the calculus may not only be diminished in size, from the expulsion of this air, but also be rendered friable, as the foregoing experiments demonstrate, that fixed air contributes much to the cohesion of bodies. Air is expelled from calculi by fire, and acrid eroding substances; but these cannot be applied to a stone contained in the human body. Whence this hope alone seems left, that such medicines may be discovered, as attract the fixed air from the calculus, and at the same time so mild, as not to injure the parts wherein the stone is contained. Now, as quick-lime seems to possess these properties, the reason is plain, why lithontriptic medicines have been prepared from it; such as Mrs. Stephens's medicines, the lime water of Dr. *Whytt*, prepared from calcined oyster-shells, and other lithontriptic remedies, so well known in Great Britain.

It is certain, that some progress has been made in the discovery of solvents of the stone; it must, however, be confessed, that the most celebrated have often proved unsuccessful. For some calculi are so hard, as to elude the action of all remedies hitherto known. But as lithontriptics lose some part of their virtues, as well in the *primæ viæ*, as in the circulation, before they can arrive with the urine at the bladder, and act upon the calculus, physicians, therefore, direct the injecting lithontriptic remedies into the bladder itself, namely, such as it might bear without injuring its structure. The antient physicians injected liquors into the bladder, not indeed to dissolve the stone, but to deterge the bladder when ulcerated. The method of introducing the catheter, is well described by *Aegineta*^a, who likewise describes a peculiar way that they used to draw off the urine in an ischuria. *Whytt* ordered four or five ounces of lime-water, made from shells,

^a Lib. 6. cap. 59.

shells, to be injected every day into the bladder, and retained as long as possible. But sometimes the bladder cannot bear lime water, even softened by the addition of milk. *De Haen*^a observed this, and *Whytt* judged right, when he forbid the use of injections, till the patient had drank lime-water for some weeks; for thus the internal surface of the bladder, which is very irritable, will more easily bear the injection, and retain it the longer, and consequently act more powerfully on the surface of the stone. Nevertheless, if the internal surface of the bladder should be greatly irritated by lime-water, a dram of starch may be dissolved in it, or a quarter part of the yolk of an egg, and then the injection will give less uneasiness, without lessening its lithontriptic qualities. But as the frequent use of injections are painful, and cannot long be complied with, the ingenious Mr. *Butter*^b has described, and given a figure of an instrument convenient for injections, and which the patient may use himself, without any other assistance.

From all which, it may be concluded, that lime-water, either by itself or together with *Venice* soap, may be safely taken inwardly, and has greatly relieved the tortures of the stone, nay, sometimes has removed the symptoms, though the stone still remained in the bladder; that lime-water really possesses a lithontriptic power; and that it prevents the separation of fresh calculous elementary particles from the urine, by which the increase of the stone is also prevented.

But the remarkable relief, that calculous people experience, from the use of lime-water, sufficiently authorises the administration of it, though it possessed no lithontriptic property. Perhaps there are many other remedies, which alleviate the tortures of the stone, yet do not dissolve it. *Linnaeus* mentions the *uva ursi*, in an oration before the University of *Upsal*, anno 1743. This is a plant very common in Sweden,

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and

^a Rat. medend. par. 2. pag. 226.

^b Method of cure for the

stone by injections.

and so astringent, that it is used there for dressing of skins. Some years after, the *uva ursi* was given by the *Montpellier* physicians to calculous persons. They prescribed half a drachm of the leaves in fine powder for ten successive days, in chicken broth, with a view of wasting the stone.

As the *uva ursi* grows in great plenty on some mountains in Austria and Styria, a quantity of it was collected, and given in larger doses to calculous patients, often with such success, that the patients thought themselves entirely freed from the stone, tho', upon passing the catheter, the stone was plainly felt in the bladder. That it is of remarkable service in ulcers of the urinary passages, where there is not the least sign of a stone, I am certain, from repeated trials, where I used this medicine only, without any thing else, except a decoction of marshmallow roots and liquorice, which I ordered to be drank plentifully, to dilute and obtund the acrimony of the urine. But nothing certain is yet known with respect to its lithontriptic power.

Liebmort extols the liquor drawn from the branches of the birch-tree, both as a preservative, as well as a means of alleviating the tortures of the stone. *Boyle*^a likewise attests, that many calculous persons found relief by this liquor; and, among others, a cousin of his own, who had tried, to no purpose, an incredible number of remedies. But this liquor does not possess a lithontriptic property; for, after the death of this Gentleman, a stone was found in the bladder that weighed some ounces. It seems likely, that such remedies prevent the increase of the stone, at least while they are taken: it is certain, that they alleviate the torments, and render life more tolerable, which indeed is a great matter.

Pechlin^b relates, that there was a French empiric in Holland, who boasted of being in possession of a lithontriptic

^a Usefulness of exp. philos. pag. 179.
No. xiv. pag. 3:.

^b Observ. phys. med.

thontriptic medicine. He dissolved, in the presence of his spectators, an human calculus in a certain liquid, which was afterwards precipitated by some lixivium, or oil of tartar per deliquium. If the clear liquor was tasted after precipitation, it seemed sufficiently mild. But he would not suffer any body to taste the fluid, in which the stone was dissolved, till he had added the oil of tartar. At length, this unknown fluid was shewn to the whole college of students, and was found to be acrid. One of the students brought the next day, "some dulcified spirit of nitre, in which, when a stone was put, we saw it presently dissolved with the same facility; and even afterwards drawn from the pores of the liquor by oil of tartar, and precipitated to the bottom. Hence we concluded, that it was the same spirit used by the empiric; at which sight the impostor went off murmuring." But even spirit of nitre dulcified, could not be borne by the bladder, unless diluted with a large quantity of water, and then it would become inert.

It is evident, from the composition of soap, that its virtue in dissolving the stone, consists principally in the capital lees, which contain an alkaline salt, rendered more acrid by quick-lime. Many experiments have been made to determine the force with which this lixivium acts on the stone. *Hartley* relates many experiments, which the celebrated *Hales* made with this lees on human calculi. From all which, he concludes, "that a lixivium of quick-lime, and fixed alkaline salt macerated together, is the most powerful menstruum to dissolve human calculi, exceeding in an immense degree a lixivium of alkaline salt alone, and only excelled by spirit of nitre, so far as is yet known."

^a Boerhaave element. chem. vol. ii. proces. 13. pag. 69.

A P H. MCCCCXXIX.

WHEN the stone has fallen into the narrow part of the pelvis, it requires the means directed at Aph. 1425 to 1428, and especially clysters, fomentations, and bleeding.

A P H. MCCCCXXX.

THAT the stone has slipped through the ureters into the bladder, is known from a preceding nephritic fit, from the pain afterwards felt through the tract of the ureter, and from the ceasing of both, with the signs of a stone in the bladder, enumerated at Aph. 1423.

When the stone has passed through the ureter, and slipped into the bladder, all the symptoms cease. However, the patient sometimes feels a slight uneasiness, through the course of the ureter for some days; but this symptom is usually so trifling, that he scarcely complains of it. Sometimes the stone remains in the ureter, and grows larger, or inflaming the part, a suppuration follows, whereby some new passages are formed, through which the stone finds an exit. If it sticks in the ureter, the place where it lodges becomes callous, and, in the room of pain, a sense of weight is perceived. The stone increasing in bulk, gradually distends the ureter; hence large stones have been found in the ureters after death.

A P H. MCCCCXXXI.

WHEN the stone has fallen into the bladder, it then requires to be directly expelled, lest growing larger, it should occasion greater mischief.

For the longer a stone remains in the bladder, the more difficult it will be to pass.

A P H. MCCCCXXXII.

THE passage of the stone from the bladder, is effected nearly by the same means directed at Aph. 1425 to 1428, but topically applied; by oily baths and oily clysters; by injecting of oil into the urinary passages; and by frictions.

All those means which lubricate, relax, and open the urinary passages, are here proper; but stimulating diuretics are hardly ever of service. Watery, soft diluent liquors are the best diuretics. Bodily exercise may safely be used, when the stone is small, and can roll about the cavity of the bladder without doing any hurt. When the stone enters the orifice of the bladder, baths and fomentations are to be applied to the perinæum, and oily and emollient liniments rubbed upon it. Oily clysters should be frequently injected, but in small quantities, that it may remain the longer in the *rectum*, and thereby relax the contiguous neck of the bladder. A little oil thrown up the urethra, gently, with a syringe, before the urine is voided, will also be of service, in order to lubricate its internal surface.

A P H.

A P H. MCCCCXXXIII.

THEN the several symptoms ought to be relieved, as they resemble this or that disease.

A P H. MCCCCXXXIV.

IF the stone is immoveably fixed in the urethra, injections, fomentations, suction, an instrument, like an ear-picker, gentle pressure, or even an incision on the part, are requisite, or a puncture in the perinæum.

Stones forced from the bladder into the urethra, are most frequently voided with the urine, yet, when they are large or rugged, they occasion great pain in passing, or are immoveably fixed therein, and sometimes cause a suppression of urine. Sometimes stones, after having cleared the whole course of the urethra, stick in the glans penis.

Injections, fomentations.] These are necessary to relax the parts which are contracted and rendered more strait by the stimulus of the stone. When the parts are sufficiently relaxed, the urethra is to be gently pressed with the finger, behind the part where the stone is fixed, in hopes that it may be gradually moved forward through the urethra, thus previously relaxed.

Suction.] *Tulpius*^a extols this as the safest method; but by suction, the air is extracted from the cavity of the urethra, which therefore will be pressed by the weight of the incumbent atmosphere, and thus the passage rendered narrower. The Egyptians attempted

to

^a Obs. medic. pag. 195.

Aph. 1435. The S T O N E.

to dilate the urethra, by blowing up the penis. *Prosp. Alpinus*^a saw several stones extracted by this method, and one as large as an olive. If the stone is immovably fixed in the urethra, and cannot be extracted, *Aretæus* advises to push the stone back into the bladder with a catheter; but this must not be attempted if the parts are inflamed. *Hales* contrived a forceps for extracting stones from the urethra, which was both tried and approved by Mr. *Ranby*.

When all the above means have been tried in vain, cutting is the only method by which the stone can be extracted, and the urethra must be divided. When the stone stuck in the extremity of the urethra, and yet could not be extracted, *Denys* divided the glans penis directly upon the stone, and dressed the wound, which soon healed.

Or a puncture in the perinæum.] Thus, if one labours under a total suppression of urine, from a stone immovably fixed in the urethra, and can neither be pushed back into the bladder, or extracted by an incision made on the part. In this case, nothing remains but to puncture the perinæum in that part where the incision is made in the lateral operation for the stone, for, unless this puncture be made to evacuate the urine, after intolerable agonies, a delirium, convulsions, and even death ensue.

A P H. MCCCCXXXV.

IF the stone be too large to be extracted by this method, the patient must submit to lithotomy.

^a De medicina Ægyptior. pag. 224.

A P H.

A P H. MCCCCXXXVI.

AND rather prefer that method called the *apparatus major* improved by *Ran*, as being the most certain.

See the method of performing this operation in books of surgery.

A P H. MCCCCXXXVII.

YET it is to be observed, that the event of this operation is always precarious, by reason of accidents, which no human foresight can provide against, nor art remedy.

A P H. MCCCCXXXVIII.

IN women, the stone is extracted by dilating the urethra, for they seldom require the operation of lithotomy.

A P H. MCCCCXXXIX.

IF the stone, lodging in the neck of the bladder, entirely obstructs the passage of the urine, it must be pushed back with the catheter. See Aph. 1434, where we have given the methods to be taken when a stone is immoveably fixed in the urethra; but if it be fixed in the neck of the bladder, it must be pushed back by the catheter.

Of

Of the L U E S V E N E R E A.

A P H. MCCCCXL.

THE venereal disease took birth in the kingdom of Naples, in the year 1493, when it immediately raged in the French army there, and thence spread itself all over Europe, and is still a very common disease.

A P H. MCCCCXLI.

THIS is a contagion contracted by generation, suckling, touching, or handling, saliva, sweat, the genital liquor, and by exhalation.

Generation.] It does not seem wonderful, that the infants of parents infected with this disease, come forth defiled into the world; for the venereal virus, mixed with the circulating humours, may be carried round the whole body, before it can be deposited in certain parts, yet the living foetus will continually receive the defiled humours of the infected mother, so that it is possible it may be tainted with the infection before its birth. But it is justly to be doubted, whether the venereal poison could be infused into the embryo by either of the parents, so as that the child can suffer no injury from it, until he arrives to adult years, and then be attacked with the disease, without any new contagion.

Suckling.] The infection is quickly communicated in this way; a remarkable case in the Medical Essays and Obs. confirms this, vol. 3, pag. 323.

Handling.]

94 The LUES VENEREA. Aph. 1442, &c.

Handling.] *Antonius Gallus*, a celebrated physician at *Paris*, tells us, that he knew a midwife who had contracted this disease, by delivering an infected woman.

Spittle and sweat, &c.] It is possible the infection may be communicated these ways, yet instances of this kind are not sufficiently attested; for which reason, the judicious *Astruc* says, "I would not, indeed, obstinately deny these ways of receiving the contagion, yet I would not take it for granted, till it is proved by certain experiments."

A P H. MCCCCXLII.

AND it usually manifests itself first in that part by which it is contracted.

This is true, for the most part, but yet not always, as will evidently appear when we come to treat of the venereal bubo.

A P H. MCCCCXLIII.

NOR has it ever taken its rise from any man or woman not infected with the same disease.

A P H. MCCCCXLIV.

THE part first infected is known at different times, according to the diversity of the place infected, and of the contagious matter, by the degree of heat, diversity of constitution, an itching, heat, a slight inflammation, by a whitish, scaly mucoſe, corroding pustule, not to be cured by the common medicines.

In this aphorism, we come to treat of the morbid changes which appear in various parts of the body, whilst the contagion adheres to them, whether by immediate contact of an infected person, or by a deposition of the matter before mixed with the humours, and now removed to different parts of the body.

According to the diversity of, &c.] For most parts of the body are covered with a hard skin, which some want; therefore, the thinner the skin, the more easily will the virus penetrate; for this reason, the Jews are less subject to be infected than others.

Of the contagious matter.] The whole history of this disease proves, that the infectious matter has divers degrees of malignity.

By the degree of heat.] It is certain, that venereal patients, who indulge themselves in wine, spices, and spirituous liquors, find all the symptoms of the disease increase, and are more difficult to cure.

Diversity of constitution.] Persons of a hot constitution are sooner, and more violently affected by the contagion of this distemper, than those of a contrary temperament.

An itching, heat, a slight inflammation, &c.] We are now to consider those changes which appear in the part, by which the contagion of the lues venerea was contracted. These are, 1. A red spot, like that at the first appearance of the small-pox or measles, or, like flea-bites. Here the patient feels a slight itching, and troublesome heat, scarcely to be called a pain. This red spot or pimple is elevated, and lifting a small scale of the cuticle, raises a blister, which, if distended with a thin pellucid fluid, afterwards bursts, and is easily cured without any bad consequence. But when this red spot rises into a tubercle, filled with a whitish or yellowish matter, as thick as fresh cream, not viscous; and when taken between the fingers, falls into drops, turning from yellow to green, when it hardens on the linen it adheres to, it
is

96 The LUES VENEREA. Aph. 1445, &c.
is always a bad omen, and shews that the disease is
not easily to be cured.

A P H. MCCCCLXV.

HENCE increasing, it first, and for the most
part, infects the external neighbouring
parts with the like ulcerous pustules, and after-
wards the internal, as the lips, gums, palate,
tongue, the fauces, nose, brain, lungs, liver,
spleen, uterus, &c.

A P H. MCCCCXLVI.

THESE ulcerous pustules discharge a filthy
mucous, tough, greenish, sanies, which
corrodes the flesh, spreading more in breadth
than in depth.

A P H. MCCCCXLVII.

SHANCRES are from thence bred in the out-
side of the penis, a gonorrhœa in the inside,
and a fluor albus in the vagina.

A P H. MCCCCXLVIII.

THEN in both sexes, the inguinal glands
swell, and produce venereal buboes, the
contagion being communicated through the ab-
sorbent lymphatic vessels.

A P H.

A P H. MCCCCXLIX.

AND in men a violent inflammation of the penis, which soon terminates in a gangrene.

A P H. MCCCCL.

THEN the testicles swell, grow painful, and often ulcerate, an inflammatory tumour arising in the *vesiculæ seminales*.

A P H. MCCCCLI.

HENCE also arise caruncles, stranguries, erosions of the urethra, prostate glands, neck of the bladder and seminal vessels; the same symptoms likewise attack the female sex.

The reason of the above symptoms is evident enough; for the strangury arises from a defect of the mucus lining the internal surface of the urethra, from an inflammation, or an ulcerous erosion; and in the worst kinds of gonorrhœas, the prostata, neck of the bladder, the *vesiculæ seminales*, and the neighbouring parts, are sometimes eroded. It only remains that we treat of the caruncle, which is often a most troublesome complaint, of whose nature and cure, the most skilful of the faculty have not as yet agreed.

Many have taken the caruncle for luxuriant flesh, by which the cavity of the urethra is straitened, and the free exit of the urine hindered. While this evil

is forming, and does not wholly close the passage of the urethra, the urine flows out in a forked manner, or in two streams; but when the disorder increases, the urine comes out only in drops, and is almost totally stopped; hence fatal suppressions of urine have followed. In the mean time, all these symptoms only shew, that the urine is stopped in the urethra, whether that stoppage be caused from some obstacle within or without the urethra, or from a compressure of the adjacent parts. For a tumour in the *prostatæ* has often occasioned, not only a difficulty of urine, but even a total suppression of it, while the passage thro' the urethra has been found clear. A soldier, fifty years old, had a swelling in the *perineum*, which he had endeavoured to disperse by various remedies; but it still increased to the size of an hen's egg. This tumour so compressed the urethra, as to produce a dysuria, a strangury, and at last, a fatal ischuria. *Petit* avers, that he had three times seen the swelled *prostatæ*, so compress the neck of the bladder, that a total suppression of urine followed. He also remarks, that in twelve bodies he dissected, he found no caruncles in the urethra, tho' they all died of an ischuria.

But as the urethra is surrounded with the *corpora cavernosa* penis, and as the venereal contagion may penetrate into these parts, and sometimes produce a tumour, many eminent practitioners have thought, that the *corpus cavernosum* of the urethra might swell from a similar cause, and the cavity of the urethra be considerably lessened, or totally stopped. Hence they have thought the reason clear, why the cavity of the urethra appears free after death, though straitened or shut up during life. The famous surgeon, Mr. Sharp, inclines to this opinion, as, it is certain, that in some cases, the urethra, which appeared obstructed during life, was found entirely open a few hours after death.

Ant.

Ant. Benevoli remarks, that the physicians in *Tuscany* were almost all of opinion, that caruncles or tubercles, formed about the neck of the bladder, were the cause of a suppression of urine, which ceases, if these tubercles can be either resolved or suppured. *Benevoli* himself did not approve of this opinion, as a catheter could, with small difficulty, be introduced into the bladder. He therefore resolved to enquire into the cause of an ischuria in the bodies of those who died of this disease; and he declares, that he never found the least mark of such tubercles about the neck of the bladder, or the adjacent parts, but the internal surface of the bladder always abraded, and deprived of its natural mucus. He sometimes also found an excoriation, more or less, in that part of the bladder where the mucus was wanting, and the *prostatæ* swelled, but never suppured.

From these observations, *Benevoli* concluded, that this ischuria does not arise from a caruncle, but from an excoriation of the internal membrane of the bladder; and that the matter which flows out with the urine, on introducing the catheter, is not pus, but mucus, with which blood is sometimes mixed, which may proceed from the corroded vessels of the bladder; as he had observed the internal surface of the *rectum* excoriated in those who died of a tenesmus. He believed, that the perpetual provocation to make urine in an ischuria, arose from a like excoriation in the bladder; but, from these practical cases, it may be concluded, that the excoriation of the bladder is rather the effect than the cause of the ischuria; and, as he affirms, that the *prostatæ* were swelled in most of these bodies, the ischuria may, with more reason, be ascribed to this obstacle. All therefore, that can be inferred, is only that the caruncle is not so often in the urethra as it is believed to be.

But *Sharp* is of opinion, that a stricture in the urethra is the most frequent cause of a *dysuria* and an *ischuria*, and that sometimes it only takes up a small

place in the urethra; sometimes grows to a considerable length, frequently in three or four different places; and that such a constriction is sufficient to produce all those evils generally ascribed to carnosities in the urethra.

It is certain, that a great contraction in the membranous parts, sometimes produces obstinate diseases. *Sharp* saw the *rectum* so contracted about the *anus*, that the cavity of that intestine did not exceed the diameter of a goose's quill. The scars of wounds and ulcers that have been healed, often leave such a constriction for some weeks and months; no wonder then that such constrictions of the urethra frequently happen after gonorrhœas, especially if they are often caught. But it seems wonderful, that the disorder should attack many years after a gonorrhœa has been cured.

Sharp indeed, believed, that caruncles alone seldom occasioned the venereal ischuria, but that they were mostly attended with strictures of the urethra, callous scars, and protuberances of the corpus spongiosum of the urethra; and yet he confesses to have seen caruncles in the urethra, but no bigger than the head of a small pin, so that they could scarcely stop up the canal of the urethra, unless some other causes concurred. *Sharp* likewise dissected some urethras, in which caruncles were found, but he also found, at the same time, some other impediments. In one, he found a filament placed across the canal of the *urethra*, near the *veru montanum*, which totally obstructed the entrance of the catheter into the bladder; which rendered the ischuria fatal. In another, he saw a number of such filaments, attached at one extremity to the membrane of the urethra, while the other extremity fluctuated at large; yet one of these was nine twelfths of an inch long, and adhered to the urethra by both its extremities. Its course ran parallel to the axis of the canal. In a third, there were
some

some small excrescences resembling one of the *valvula tricuspidis* of the heart.

Sometimes the canal of the urethra, especially about its orifice, is full of venereal warts, which are distinguished from caruncles by their hardness. But it does not appear that such warts adhere to the urethra; if they did, they would obstruct the exit of the urine, as much as caruncles do, and perhaps more, as these warts in the glans and prepuce grow to a large size.

From all that has been said, it is manifest, that the venereal dysuria and ischuria, are not always occasioned from carnosities, but are produced from many other causes; but the old physicians and surgeons had no other curative intention than that of destroying the caruncles. They saw that fungus flesh in wounds and ulcers was happily repressed by the use of drying medicines, and even by corrosives judiciously applied; hence they concluded, that the same method would succeed in destroying caruncles, yet they do not seem to have been solicitous to guard the sound parts against the action of corrosives. *Parey* advises a cylindrical piece of lead, pointed and rough, about a finger's breadth, to be thrust into the urethra beyond the caruncle, and then moved so as to destroy the carnosities. He would have this done roughly, in order to cause a hæmorrhage, which he thinks absolutely necessary to empty the obstructed vessels. He likewise describes a cutting instrument, which may be safely introduced into the urethra, so as to destroy the caruncles. He likewise injected acrid and corrosive medicines into the urethra, such as *savine*, *antimony*, *verdigrease*, *Roman vitriol*, &c. This cruel method was afterwards followed by others, particularly by *Solinguus*; but it was soon afterwards laid aside, so many patients having miserably perished by it, as *Saviard*, a famous surgeon, who flourished about the end of the last century, testifies. Wax candles were afterwards contrived, but being soon found inconvenient,

102 The LUES VENEREA. Aph. 1452, &c.

nient, were soon laid aside, and, at this day, the bougies of *Darân* are generally used in disorders of the urethra.

A P H. MCCCCLII.

HENCE the *venereal virus* is carried into the limbs, with nocturnal pains, seizing the limbs between the joints, and producing a rigidity thereof.

For these symptoms shew, that the disease has fixed itself in the bones, which are raised into nodes and knobs, that afterwards produce cancerous ulcers of the most malignant kind.

A P H. MCCCCLIII.

WHENCE the cartilages, principally those of the nose and palate, are eroded.

A P H. MCCCCLIV.

THEN presently seizing the middle of the bones, produces a caries, especially in the cranium.

A P H. MCCCCLV.

AND then, the parts situated above these *carious* bones, rise into imposthumes of the worst kind.

A P H.

A P H. MCCCCLVI.

BUT the venereal disease even raises these bones into hard topi, which are at first almost void of pain, but gradually grow painful, and at last corrupt the incumbent parts.

A P H. MCCCCLVII.

FROM whence the signs, by which this disease is known, are obvious.

A P H. MCCCCLVIII.

AGONORRHOEA is cured by bathing, fomentations, injections, and by mercurial purges frequently repeated; by emulsions, balsamics, and by abstaining from all high meat and drink, exciting to venery; and lastly, by living upon a light thin diet.

The remedies proper for all these intentions, are enumerated in the Materia Medica.

A P H. MCCCCLIX.

THE cure of the gonorrhœa is to be persisted in, until nothing unusual flows from the penis, or manifests itself in the urine.

A P H. MCCCCLX.

ASWELLING or *inflammation* of the penis is cured by anodyne, discutient and emollient cataplasms; by fomentations of the like kind; by plentiful bleeding, and by the remedies mentioned at Aph. 1458.

When the penis is inflamed, it must quickly be cured by the antiphlogistic method, or a gangrene will speedily ensue. A large quantity of blood is to be taken from the arm, and repeated, if needful; and in some urgent cases, the large vein which runs along the back of the penis, may, at the same time, be opened with that of the arm. I give two ounces of a purging decoction every hour, composed of *tamarinds, senna, agaric, sal polychrest, &c.* till the body was violently purged, and the swelling of the penis abated. I have sometimes kept up an artificial diarrhoea for some days, and then a green matter began to be discharged from the penis, and indeed in a large quantity, by which the patient escaped the threatening danger of a mortification and mutilation. I covered the parts with an emollient poultice, blended with antiseptics; to which were added some spirits of wine, or some other aromatic spirituous liquor, that the affected parts might not be too much weakened by a continual use of fomentations. But spirits are rather injurious, unless they be properly diluted, so that scarcely a thirtieth part of the *spt. vin. theriacal.* was mixed with the cataplasm. I saw the penis of a young man swelled to a monstrous degree, by the imprudent use of spirits of wine.

When the penis is only swelled without the signs of inflammation, as in a phymosis and paraphymosis, the full antiphlogistic method is not always required; but a phymosis may often arise from a venereal ulcer
corroding

corroding the glans, or internal surface of the prepuce, attended with so great a tumour, as to obstruct the free discharge of the urine, and confine the ulcerous matter : whence a great many evils may follow, unless the confined acrid corruption be speedily evacuated. The best way to effect this, is to inject warm water between the glans and prepuce, until it is washed away ; for the mildest detergents increase the pain.

Some authors direct a silver or leaden cannula to be introduced into the urethra, if the urine is discharged either in a small quantity, or with pain ; but the prepuce is sometimes so swelled and twisted by the phymosis, that it is hardly possible to pass the cannula ; nor can it be attempted, without increasing the violence of the pain, before the swelling of the parts is considerably abated. Bleeding and antiphlogistic purges are the best remedies here.

But if the inflammation yields not to proper remedies, and the swelled prepuce should so compress the glans, as to fear a strangulation ; the prepuce is to be cut by scissars or scalpel on either or both sides, to free the glans from the stricture, but the scalpel is the most eligible, for the scissars always bruise more or less. This method is recommended by *Astruc*, but I never advised it myself, when the prepuce was greatly inflamed, as I could always disperse the tumour by the antiphlogistic method. I therefore fomented with the *acetum lithargyrii*, diluted with two hundred parts of water, and always obtained a perfect cure, when the prepuce was greatly swelled, and but little or not at all inflamed. But if an incision should be found necessary, then *Celsus*'s * method would be the most proper, namely, to slit the prepuce at top with a scalpel, to give vent to the matter, Sometimes these inflammatory tumours of the penis, terminate in a scirrhou's hardness, which the celebrated *De la Peyronic*, has often observed to be resolved

* Lib. vi. cap. xviii. pag. 392.

solved by the Baregian waters, after crude mercury had failed. In the *Materia Medica* there are various formulas adapted to the curative indications.

A P H. MCCCCLXI.

AVENEREAL buboe is cured by resolving specific plasters; by promoting a suppuration, if these prove ineffectual; and by deterring remedies after it is opened.

Fallopious censures those who opened crude buboes, but orders those that are ripe to be cut through their whole length; yet he rather prefers the caustic, because by that, a great deal of skin is consumed, and the ulcer becomes broader, nor will there remain any cavities; that is, *sinuses* and *fistulæ*, which are very difficult to cure.

As *Boerhaave* and *Astruc*, with many others, have attempted to disperse buboes at their first appearance; and if they could not be dispersed, brought them to a suppuration, but never opened crude, hard, and inflamed buboes; I have followed the practice of these great men, and can confirm the reasonableness of it from my own observations. I have attempted to disperse recent buboes of no great bulk with plasters made of the ferulaceous gums, such as *galbanum*, *ammoniacum*, *sagapenum*, and the *emplastrum de ranis cum mercurio*. A salivation is sometimes raised by this plaster, when a large quantity of mercury is mixed with it, which is seldom required.

Buboes are not always easily resolved, nor easily brought to a suppuration when required. In the *Materia Medica*, there are two formulas of dissipating plasters, one containing a large quantity of flos sulphuris, and about $\frac{1}{4}$ part of sacch. saturni in the whole mass; and the other about $\frac{1}{11}$ of the whole.

It

It was the common opinion, that there is a styptic repelling power in sacch. saturni; for which reason these prescriptions have been condemned by many. But *Goulard* applied with great success a solution of lead saturated with vinegar, for the cure of venereal buboes, which he dispersed, though of a great bulk, and matter fluctuating in them.

If the bubo cannot be resolved, but rather increases, then it must be brought to a suppuration by the means directed at Aph. 403. In the *Materia Medica*, there is a form of a suppurating cataplasm, which is of excellent use, if applied to the skin, and covered with a pig's bladder; many more, of equal efficacy, may be contrived upon the same plan. When the bubo is come to maturity, it must then be laid open, not only to give vent to the matter, but also to have an opportunity of applying various deterging remedies to the bottom of the bubo, which is often sordid, and requires acrid detergents to cleanse and heal it.

Strong detergent, and even corroding remedies, may be safely applied to the bottom of the ulcer, to cause a slight eschar, which easily separates as the suppuration advances, and leaves the bottom a great deal cleaner. In the *Materia Medica*, there is a powder directed for this purpose, composed of *scordium*, *white vitriol*, and *aloes*. Some apply yet more acrid remedies, prepared of the mercurial præcipitates. As to the rest, there is little or no danger to be feared from a bubo, when under the direction of a skilful hand, though sometimes the cure is tedious.

A P H. MCCCCLXII.

A SWELLED testicle is to be fomented in the manner directed at Aph. 1460. If the swelling is much, blood must be taken from the arm. It may likewise be eased by a plaster applied to the scrotum, until it returns to its natural state.

The most frequent cause of swelled testicles is, when the matter of the gonorrhœa is little in quantity, or suppressed, or from an imprudent use of hot acrid diuretics, as bals. sulph. ol. terebinth. and such like; but swellings from this cause are quickly removed, if proper remedies are early applied. If the swelling be attended with inflammation, and greatly increaseth, bleeding and brisk antiphlogistic purges are the proper remedies, which must be repeated till the symptoms are abated. The most emollient fomentations are likewise necessary, to every pound of which a drachm of sal ammoniac and an ounce or two of vinegar should be added. *Sydenham* cured a tumour of the testicle, that had continued for some time, by the same method. For a resolution of the tumour is to be attempted by every means, that the other events of an inflammation may be prevented, which are here very dangerous, and always difficult to cure.

Sometimes the weight of the swelled testicle pulls upon the spermatic chord, and produces violent pain. In this case, the patient must keep his bed; for thus the testicle will be supported, and the fomentations more conveniently applied. When the tumour is diminished, it should be supported by a proper bandage, and the scrotum covered with the empl. de mucilagibus or diapomphologos, &c. Many surgeons use the empl. de ranis *cum mercurio* for the same intention,

Aph. 1463, &c. The LUES VENEREA. 109
tion, or rub the swelled testicle with mercurial ointment. Others use turbith mineral, which is a most effectual remedy when the disorder is recent, and the danger of a suppuration prevented by bleeding and antiphlogistics. When a scirrhus hardness remains, I have known the external and internal use of the *cicula* of great service.

A P H. MCCCCLXIII.

THE pustules and *shankers* are to be corroded to the quick by mercurials, and then gradually cured by milder preparations of the same.

The method of curing shankers and warts, is so well known, that it would be superfluous to add the comment to this aphorism. It is sufficient to observe, that *Boerhaave* directed a solution of sublimate in aq. calcis, and *Le Begue de Presse*, a physician at Paris, applied with great success, sublimate dissolved in brandy, and diluted with four times the quantity of water. He also gave the same remedy internally, but in a very small quantity.

A P H. MCCCCLXIV.

BUT the internal remedies, prescribed at Aph. 1458, are almost always to be used at the same time.

A P H. MCCCCLXV.

AGONORRHOEA in women is cured by the remedies prescribed at Aph. 1458.

But it is to be remarked, that women cannot bear such strong cathartics as men, nor so frequently repeated, especially if they are of a lax habit. Tamarinds, manna, cassia, &c. are sufficient. Mercurial purges are seldom wanted, and then they ought to be given in small doses. Exercise is hurtful to men in a gonorrhœa, and sometimes renders the case incurable. In the female sex, it is beneficial.

A P H. MCCCCLXVI.

BUT chiefly by powerful detergent fomentations, and by mercurials.

A P H. MCCCCLXVII.

BUT when pustules spread all over the body, when pain seizes the joints, when there are nocturnal pains, large buboes, raking pains of the bones, repeated gonorrhœas, it is then certain that the patient is poxed, and that a salivation is required.

It is certain, that a confirmed *pox* has often been cured without salivation.

A P H.

A P H. MCCCCLXVIII.

TO raise a salivation with the greater success, let the patient for some days be filled with ptisan.

A proper ptisan is directed in the *Materia Medica*, of which four ounces every hour of the day.

A P H. MCCCCLXIX.

THEN, every two hours, administer a *suitable* dose of mercurius dulcis.

A P H. MCCCCLXX.

AS soon as the breath begins to be offensive, the gums to be painful, the teeth to loosen, then ought the physician to consider whether the salivation should go on, remain in its present state, or be lowered.

A P H. MCCCCLXXI.

IF three or four pounds of saliva are spit every twenty-four hours, it is sufficient.

A P H.

A P H. MCCCCLXXII.

IF the patient spits less, the salivation is to be increased, by giving a dose or two of the same medicine.

A P H. MCCCCLXXIII.

IF the salivation should be greater than the strength of the patient can bear, it is to be checked by mild clysters, purges, or sudorifics.

The medicines proper in this case, are enumerated in the *Materia Medica*.

A P H. MCCCCLXXIV.

IF the mercury runs off by stool, an opiate and a diaphoretic will be necessary.

A P H. MCCCCLXXV.

WHEN the mouth, gums, and fauces swell too much, or grow very painful, a soft lenient gargle or lotion is to be used, or the remedies directed at Aph. 1473.

When the internal parts of the mouth are so swelled, that a cathartic cannot be taken, then purgative clysters are to be injected.

A P H. MCCCCLXXVI.

THE salivation is to be continued until all the symptoms of the disease vanish, which generally takes up about thirty-six days.

A P H. MCCCCLXXVII.

THEN a small dose of mercury must be now and then taken for thirty-six days more, to keep up a very gentle salivation.

The intention here is not to raise a new salivation, but to keep the humours in such a dissolved state, that if any part of the venereal virus still remains in the circulating humours, or adheres to some part or other, it may be washed away by plenty of diluting liquors, and the patient freed from this filthy disease. He must also abstain from fat meats, from wine and spirituous liquors during all this time; nor should these exhausted bodies be all at once filled with nourishment, even of the best kind.

Imagination cannot picture a more shocking spectacle, than a great number of patients in the height of a salivation. Physicians, therefore, soon after the appearance of the venereal disease, attempted the cure without a salivation. *Almenar*, a Spanish physician, used mercurial unctions, but at the same time endeavoured to prevent a spitting. *Amatus Lusitanus* and *Botallus* recommended this method afterwards, which was at last adopted by the faculty at *Montpelier*. This method was, by others, called curing *per extinctionem*, because the salivation was extinguished by repeated purges as soon as it began to appear. *Astruc* allows,

that the venereal virus may be expelled either by sweating, urine, or stool, assisted by art.

From all which, I began to suspect, that a salivation was not absolutely requisite for curing the venereal disease, and endeavoured to find out some other mercurial remedy, which might be of great efficacy, but yet diluted at will, and tried in a very small dose. I then thought of *sublimated mercury*, and was not deterred from its known acrimony, being encouraged by what *Boerhaave*^a, that great master in physic had said of *sublimate*. "A grain of this diluted in an ounce of water, is a cosmetic, if it is used with prudence. By simply washing with it, it proves a poison to all insects in the skin. If a dram of such a mixture, softened with syrup of violets, is taken two or three times a day, it performs wonders in many diseases esteemed incurable; but it must be cautiously used by the prudent physician. Beware, if you don't understand the proper method."

I did not immediately give this remedy for the cure of the venereal disease. I gave it first to a poor woman of 50 years of age, who, for many years, had an ulcer in her right leg, bigger than the palm of a man's hand, which daily discharged a quantity of fetid sanies, and was very painful, yet there was not the least reason to suspect that the ulcer was of the venereal kind. I first began with a twentieth part of a grain diluted in a pint of water, which was ordered to be taken in twenty-four hours. I gradually increased the dose, until she took a quarter of a grain in a day; but when I increased the quantity of the *sublimate*, I also increased the quantity of water. As soon as I observed the ulcer to look clean, and the discharge grow thick and less fetid, I continued the same dose for some time. When I saw the cure did not advance, I added a twentieth part of a grain more, until she took one grain diluted, in at least two pints of water, in twenty-four hours. I ordered her

^a Element. chem. vol. 2, process 198.

her a nourishing emollient diet. In three months the ulcer was cured, and firmly cicatrized, and she enjoyed a better state of health than before.

Confirmed in the efficacy of this remedy, by this and such like cases, I began to give it in the *lues venerea*, and conceived great hopes of success. But some patients afterwards, having felt a very disagreeable roughness in the mouth after taking this remedy, I thence dreaded some mischief, and greatly diminished the dose, but the efficacy decreased in proportion. I have since seen a vomiting excited by the two first doses, when given in a large dose, and always after it created a nausea and sickness, with a heat in the stomach and mouth, but without a vomiting. There moreover followed gripings in the bowels, a purging, and borborygmi.

But whilst I was trying various experiments, to give such a quantity of sublimate, as not to cause any of the fore-mentioned complaints, I received a letter from *Ribeira Sanchez*, chief physician to the Empress of Russia, informing me, that an old surgeon, morning and evening, gave an ounce of the following mixture in the most desperate venereal diseases; ℞ mercurii sublimati corrosivi ℥j. Let this be dissolved in 120 ounces of proof spirits, distilled from barley or rye. He increased or diminished the dose according to its effects, and most certainly cured the disease. He adds, that a salivation of course follows.

I was highly pleased with this intelligence, and therefore used this remedy, but I ordered a pint of a decoction of Rad. Althææ and liquorice, or some such emollient decoction to be drank immediately after it, and sometimes added a third or fourth part of milk. The patients easily bore the remedy in this form, and found not the least ill effects from it. Some used spirit of wine in the place of spirit of corn, and with the same effect.

I have always used the corrosive sublimate in the proportion communicated by *Sanchez*, that is, half a

grain to an ounce of spirit. *Sanchez* observes, that a salivation always follows the use of this remedy, when seven grains dissolved in water, were given in eight days; but as I earnestly wished to cure this disease without a salivation, I used a less quantity, that I might prevent it, as a table spoonful, or half an ounce, morning and evening.

As I was now certain of the utility of this remedy, I communicated the use of it to several others of the profession in different parts of the world, with whom I held an epistolary correspondence. This is the reason why many have believed, that the public is indebted to me for the use of this remedy.

St. Mark's Hospital in the suburbs of *Vienna*, was instituted for curing the poor afflicted with the venereal disease. A mercurial remedy, which was carefully concealed, had been for many years used in that hospital; the administration of which was committed to a man altogether ignorant of medicine, yet he gloried in this arcanum. When this man died, I obtained, that the cure of these wretched venereal patients should be committed to a physician, and the famous *Maximilian Locher* bore this office for many years. He consulted me about the cure of this disease, and I advised a solution of corrosive sublimate, in the same proportion and dose as before-mentioned. He made the first trial of it, May 1, 1754, on 128 patients, who were all preparing for a salivation. All these were cured without any salivation, and ever after, the method of salivation was banished from St. Mark's Hospital.

No preparation is here required, unless the patient be full of humours, or has a violent head-ach, then he is bled or purged. The patients are kept in a warm room till they sweat. Their food consists of the thinnest broths, milk porridge, or water-gruel, and white meats, with well baked bread. All fat or salted victuals, together with wine, are forbidden. Small beer is allowed. For common drink, barley-water, water-gruel,

gruel, or some emollient decoction is prepared, to which milk is added to patients of a dry constitution. They are directed to drink plentifully, for then their cure more happily succeeds.

Those who have two or three stools a day by the medicine, are soonest restored to health. *Locher* observing this, now and then gave a purge.

In thousands cured by this method, he hardly ever saw a salivation raised, except in those who had before taken other mercurial remedies. When the signs of a salivation appeared, he desisted from the use of the medicine, ordered the patient to drink plentifully of an emollient decoction, and thus the salivation ceased. He then returned to the use of the medicine, and persisted in it till the cure was completed. Many were cured in six weeks, but two or three months were required for the cure of those in whom the disease had taken deeper root.

Locher observed, that men were sooner cured than women, in whom the disease manifests itself more slowly, and therefore is often more difficult to cure. Besides, they obstinately reject every kind of remedy during the time of their *menses*, by which their cure is retarded; yet, I am convinced, from repeated experience, that the menstrual discharge is not disturbed by the use of this remedy. I am likewise certain, that a long and continued use of it, is not injurious. I gave it to a young nobleman morning and evening for eighteen months, for an opacity of the cornua and crystalline humour, of which he was perfectly cured. The famous *Pringle* recommended this remedy to the army surgeons; it was tried, and succeeded, and thence concluded, that this method is preferable to salivation.

I have seen venereal warts, tophs, nodes, and exostoses, which had resisted the use of this remedy taken internally, entirely dissolved by the external application of it.

A P H. MCCCCLXXVIII.

NOR is there any other remedy then required for obtaining health.

For it is here supposed, that all the venereal virus has been totally expelled the body by the action of the mercury, and that nothing remains to be done, but to fill the exhausted body with good mild nourishment, under the restrictions before-mentioned.

But as venereal cases have happened, wherein the efficacy of quicksilver has failed, in whatsoever manner applied, it will be worth while to consider what means still remain in the salutary art, that may relieve the wretched patient.

*Antonius Musa Brassavolus** displays the efficacy of hard labour in the cure of this disease; and *Fracastorius*, in his poem, entitled *Syphylis*, highly extols all kinds of exercise in the open air, as hunting, racing, climbing up mountains, &c, but at the same time forbids the use of every sort of fat rich food. I have been informed, by persons worthy of credit, that men, condemned to the galleys in the Mediterranean seas, were cured of the venereal disease by the hard labour they daily endured, and their scanty poor food, sufficient only to support life. The same is confirmed by *Fallopious*.

The following case shews what an abstemious life and hard labour will do, even in an almost inveterate lues. A young gentleman, who had undergone four salivations, after each of which, the disease still broke out a-fresh. His cure was also three times attempted by decoctions of guaiacum, but with no better success. He had tumours on the sternum, clavicles, and one on the forehead: his skin was all over covered with blotches, and had nocturnal pains in his bones. As he

* Pag. 680.

he was poor and destitute, I placed him with an husbandman, in the station of a servant, without any other wages than his victuals, which were very homely and scanty. His drink was thin sour whey, or butter milk. He began this kind of life in the beginning of April, which he resolutely continued until the beginning of October, when he returned perfectly recovered. He abstained from every kind of meat, fish, eggs, milk, butter, and cheese, during the whole time. I saw him some years afterwards, married, and blest with an healthy progeny.

A decoction of guaiacum was likewise used when mercury failed, and was in high esteem, after *Ulric de Hutten*, a German Officer, had publicly declared, that he had been cured by this remedy, after he had gone through eleven salivations.

The sarsaparilla has also been used for the cure of the lues venerea, and many physicians have given it such wonderful encomiums, as to prefer it to the guaiacum. Others have thought it a useful remedy, tho' they expected not such great effects from it. *Anton. Recchi* praises the sudorific virtue of this root, "by which pains of the joints, and other parts of the body are eased, and obstinate venereal disorders are vanquished;" and affirms, that it is the *Smilax aspera* of *Diascorides*. *Nicol. Massa*, who has written well on this disease, extols a decoction of the sarsaparilla; nevertheless, he confesses, that its effect cannot be compared to that of the guaiacum; for those who are cured by it, easily relapse into the same disease again.

Vesalius, who carefully examined the sarsaparilla, seems to have had no great opinion of it; but *Fallopins*, who lived about the same time, had more confidence in this root than in the guaiacum; yet, he acknowledges, that if it does not prove effectual the first time, it will the second, or at least the third. He also mixed these two sometimes together, when he had an inveterate lues to cure.

This method of adding guaiacum to the sarsaparilla is still used in the Hospital of *Incurables* at Florence. *Fallopious* used equal parts of these medicines in his decoctions; but *Targioni Tozzetti* tells us, that 650 pounds of the sarsaparilla, and only six of the guaiacum are yearly consumed in that Hospital. The famous *Fordyce*^a relates many venereal cases, in which the decoction of sarsaparilla was found of remarkable benefit, particularly in nocturnal pains and head-achs arising from this disease. He observed, that it was exceedingly serviceable to those of lean consumptive constitutions, caused by the venereal disease; that it restored the strength, appetite, corpulence, and natural colour. He expected particular benefit from it, when crude mercury, and the decoction of guaiacum had not entirely eradicated the disease.

Storck^b confirms the efficacy of the sarsaparilla in his practical observations, and found its effects far greater than he expected, which he proves by a very wonderful case.

China-root, which was brought into Europe about the year 1535, was extolled as an incomparable remedy for subduing the venereal disease. It soon grew into esteem amongst the more opulent, because it also procured certain relief in diseases of the joints; for which reason, the *Emperor Charles the Vth* drank decoctions of it. But *Vesalius*, who examined into the virtues of this root, "expected no more from it than from barley-water." Neither did *Fallopious* attribute much virtue to the *China-root* in curing this disease; though he allowed it to be a good medicine for disorders of the bowels, ulcerated cancers, and sore blood-shot eyes. He further remarks, that those who use it grow fat, which is likewise confirmed by the testimony of *Prosper Alpinus*, who says, that the people of Asia give it to fatten the women in their seraglids. However, *China-root* may be justly placed in that class of

^a Medical observ. and inquiries, vol. 1. secund. pag. 225. & seq.

^b Ann. medicus

of medicines which are, by physicians, called *purifiers of the blood*.

It appears from recent observations, that the *cicuta* has been remarkably serviceable in venereal diseases, which neither a salivation, other mercurial remedies, nor the fore-mentioned decoctions, could any way subdue. The *aconitum* has likewise cured this disease, as appears from the experiments of *Storke*. I have lately been informed, by a person of great veracity, that the root of the *lobelia*, slowly boiled, or infused in water, is a safe and certain cure for this disease, which it effects in the space of ten or twenty days. This decoction is drank fasting; a large dose vomits, less purges, and a small dose brings on a sweat.

A P H. MCCCCLXXIX.

TGPHI are lessened by plasters, (1461) by making an opening, and scraping the bone.

Of the R I C K E T S.

A P H. MCCCCLXXX.

ABOUT the middle of the seventeenth century, there arose a new disease in the inland parts of Great Britain, spreading itself from thence through the whole kingdom, and all the northern parts of Europe, called *The Rickets*; at present a very common disease.

Glisson, professor of physic, in the famous university of Cambridge, says, that this disease first appeared in Dorsetshire and Somersetshire, and spread all over the southern parts of the kingdom, but very rarely appeared in the northern counties, so that it is scarcely yet known in those places by the common people. *Glisson*, with seven other physicians of London,

don, carefully examined this disease, and concluded, that it was a new disease; but all physicians did not agree in this point. Some were of opinion that it was known by the antients, but described under another name, and afterwards called the *rickets* by *Gliffon*. *Zeviani*, a very learned physician, endeavours to prove the antiquity of this disease by many arguments. He says, that all the symptoms, at least the principal ones, of the *rickets*, were enumerated either separately or unitedly, by the antients; but the united symptoms define the disease, and not one or two only. Upon examining in my *adversaria*, what I had collected about the rickets, I may, at least conclude, that this disease is not so obviously described in the writings of the antients, as to be readily observed by every one.

After the rickets began to appear in London, the physicians there doubted not of the novelty of the disease. They, in conjunction with *Gliffon*, searched into the nature of it, saw the whole course of the disease with their own eyes, examined the bodies of those who died, and consequently were sufficient judges to determine whether it was a new and unusual disease or not.

Zeviani alledges, that *Sydenham* has confounded the rickets with that kind of consumption which happens to children, after autumnal fevers of the continual and intermitting kind, and even cured it with the same remedies; but *Sydenham* has not confounded these two diseases; neither did he cure them by the same method, tho' they appear to have something in common with each other, namely, a swelling of the abdomen, and both sometimes terminate in a consumption. See his *Dissertatio Epistolar*.

A P H. MCCCCLXXXI.

THIS disease is never born with Infants, and rarely bred before the ninth month of their age, hardly ever after the second year of life; but

but frequently in that intermediate space of time.

It is certain that children are very rarely born with the rickets; yet *Glisson*^a tells us, that one of those physicians, concerned in writing the history of the rickets, "had once, and only once, seen a new born infant affected with this disease, and that his back-bone and neck were so very weak, as to be unable to support his head, which was larger than natural. He died within three months."

A P H. MCCCCLXXXII.

BUT this disease is chiefly fatal to children, whose parents are of a lax, weak constitution; are indolent, delicate, who live luxuriously; are fond of fat meats and confections, who eat little bread, drink sweet wines, and a deal of warm water; who have been exhausted by chronic diseases, venery, age, and particularly if they have had the lues venerea, and frequent gonorrhœas; for such generally propagate a weak and languid offspring.

It was observed by the London physicians, that those children became ricketty, whose parents were of a weak constitution, who led an easy indolent life, and were incited by a splendid table to eat more than was sufficient^b. But the children of the lower class of people are ofteneft affected with the rickets; when they, together with their parents, through want, are obliged to live upon aliments unfit for them; and also, as they generally dwell in little, cold, damp huts, not defended from the inclemency of the air, which is highly injurious in this disease.

Confections.] It may be at least doubted, whether sugar is so injurious to health as some have imagined.

Boerhaave

^a De Rachitid. cap. xv. p. 172.

^b Ibid. p. 285.

*Boerhaave** thus speaks of that admirable substance. "Sugar diluted in the human body, by the natural juices, produces a kind of saponaceous lixivium, which dissolves all oily, viscid concretions, assisted by the vital powers: hence it never generates phlegm, but dissolves it; nor does it augment the bile, neither is it converted into it, but opens, attenuates, and incides. However, by too much dissolving the oils, it may make a person lean, and by attenuating too much, it may bring on a weak, lax habit of body: hence to ricketty children, and persons troubled with the scurvy, it has often been observed to do harm.

Exhausted by chronic diseases, venery, &c.] No body doubts that such parents beget weak and morbid children, and children still weaker, may be expected from decrepid old persons, and from those who, in the vigour of life, have exhausted themselves by unlawful pleasures.

A P H. MCCCCLXXXIII.

BUT if the nurse is likewise affected with the same diseases, the rickets is increased in the child the more he grows in bulk.

A P H. MCCCCLXXXIV.

AND more especially if the child is kept too cold and wet; if it is fed with watery, mucilaginous *substances*, unripe fruit, fish, unfermented, mealy, and sugared aliments; if it has a long time laboured under an autumnal intermitting fever, a chronic, or acute disease; if it has

* *Elment. chem. vol. 2, process. 38.*

Aph. 1485, &c. The RICKETS. 125
has been ill-cured of any sort of scab, herpes, or
ulcers, or if these have been improperly sup-
pressed; if it has been weakened by warm bath-
ing, fomentations, liniments, ointments, or
moist steams; if it is continually kept sitting on
a perforated chair, with the lower parts of the
body naked.

A P H. MCCCCLXXXV.

THE commencement of the rickets is known
in those who cannot yet walk, by the fol-
lowing signs. 1. By their age. 2. By the
preceding causes. 3. By the brothers or sisters
being affected with the same disease. 4. By a
flaccid tumour of the head and face. 5. By the
looseness of the skin. 6. By the swelling of the
abdomen. 7. By the leanness of all other parts,
particularly of the muscles. 8. By the protu-
berance of the epiphyses of the joints of the
wrists, elbows, shoulders, knees, and ancles.
9. By the largeness of the arteries and veins of
the neck, while all the others are less conspi-
cuous.

A P H. MCCCCLXXXVI.

BUT in children, who begin to walk, this
disease is known. 1. From all the symp-
toms before enumerated. 2. From their slow,
tottering, feeble manner of walking, from their
readiness to fall down, and inability to stand
firm, or long, which is followed with a con-
stant

stant desire of sitting, and at last with an impossibility of moving any of the limbs, with a loose hanging neck, and nodding of the head.

3. From a premature acuteness of wit, a clear apprehension and quick sense, with the appetite and digestion almost unimpaired.

A P H. MCCCCLXXXVII.

WHEN the disease is more advanced, the head becomes large, and the sutures apparently wide; the thorax is compressed at the sides, but raised high and pointed at the sternum, with nodes at the extremities of the ribs; the abdomen projects outwards; the teeth are rotten and black; all which increasing daily, often leave disorders of the same destructive nature, all the rest of the patient's life, especially a spina ventosa, and a caries of the bones.

A P H. MCCCCLXXXVIII.

DURING the whole course of this disease, a slow fever consumes the body until death; and then all the fibres, membranes, vessels and viscera, appear soft and flaccid, the humours dissolved and slimy; so that we may conclude, the proximate cause of this disease, to be a sluggish, slimy, cold, and vapid cacochymy, perhaps with a mixture of a latent venereal virus, together with a very loose structure of the solid parts.

It

It does not appear, that the venereal disease can be enumerated amongst the causes of the rickets, as it is certain that this disease arises in infants, without the least suspicion of a venereal contagion previously communicated. This opinion is further confirmed, from the method of cure; for the rickets require a very different one from that of the venereal disease; and *Glisson* * observes, "that children, who were rubbed with mercurial ointment to kill the itch, have afterwards been seized with the rickets." It now remains that we treat of the cure of this disease.

A P H. MCCCCLXXXIX.

IT is best cured by a light dry diet, not fat, of easy digestion, seasoned with the mildest spices, given often, but in a small quantity. By generous liquors, drank in moderation, especially beer well brewed, not stale, but well boiled and thick, like *Brunswick mum*. By a dry and warm air; by dry warm woollen clothing, in preference to any other; by lying upon mattresses filled with aromatic, strengthening, drying herbs, placed upon a wooden bedstead in the highest and driest apartment of the house; by tossing, shaking, swinging, and dancing them, and by carrying them in a coach over the stones; by repeated warm, dry frictions, with flannels impregnated with the smoke of aromatic gums, principally applied to the abdomen and backbone; by repeated blisters; by gentle vomits, given with prudence; by purging for some days successively with rhubarb, or some other stomachic purge; and lastly, by a long continued use of strengthening, drying, antiscorbutic, and cordial

* De Rachitide, c. xvi. pag. 188.

dial medicines. May not the cold bath be of service ? may not liniments also ? and of what kind ?

It is manifest, that in the rickets, the solids are lax, and want a due degree of elasticity and strength ; every thing, therefore, that was directed at Aph. 28, for the cure of weak and relaxed fibres, is here also necessary, except that in the cure of the rickets, the diet should rather be drier, and the use of milk, panada, and broths avoided.

Aliments, which are easily digested, and have nothing glutinous in them, are the best. All fat meats are injurious ; for, as the solids are already too much weakened, it is to be feared, that this diet would degenerate into a rancid acrimony, which is the worst of all others ; but the proper aliments are enumerated in the *Materia Medica*.

Bread, well baked, and well fermented, is of the greatest service ; for flour is of a very clammy nature before it is fermented, and baked into bread. Biscuit bread is, of all others, the most proper ; it is very dry, and may be kept a long time from contracting moisture, when shut up in casks. These biscuits should be made of the purest wheat flour, with some strengthening spices or seeds mixed with them.

The lean meats of young animals, either roasted or boiled, are allowable.

By generous liquors drank in, &c.] The kinds of beer recommended for the rickets, are not fermented, but saturated with the nutritious substance of the corn, so that they may be called *potable meats*, can hardly be brought to ferment on account of their spissitude, unless they are first diluted by a farther addition of water. *Brunswick mum* is the most efficacious of all the sorts of beer, as it possesses a remarkable strengthening and nourishing quality. One ounce of this beer is usually given three times a day, with the biscuit before recommended. The wine called

called *Hippocras*, is a most grateful and effectual remedy. It is made, by infusing four ounces of cinnamon, cut very small, but not bruised, in six pounds of the best Rhenish wine. Let the ingredients stand without heat in a glass vessel close covered, for 24 hours, adding as much sugar as will sufficiently sweeten it; the wine thus medicated, is to be strained through a flannel bag, and kept in bottles well corked. Half an ounce of this wine, with biscuit, may be taken three or four times a day. Red Florence wine, French claret, or the Greek black astringent wines, are also proper, as they contain a large quantity of spirit, and have a strengthening quality.

By a dry and warm air.] For infants, who are exposed to a cold and moist air, are often seized with the rickets, so that a dry and warm air must be of service.

By dry warm woollen clothing, &c.] This precept is of great moment, and if duly observed, is remarkably serviceable in the cure of ricketty children. Flannel shirts are preferable to those made of linen.

By lying upon mattraffes, &c.] In the *Materia Medica*, directions are given how such beds and pillows are to be made. Perhaps, if the aromatic plants were cut small, instead of being beat into a powder, they would be more useful, for the powder is apt to run into small lumps from the humidity of the body, which must give uneasiness to the patient; besides, the fragrance of the aromatic plants is sooner lost when reduced into a fine powder, especially as such beds must be often dried. But as too great a fragrance might incommode the patient, double the weight of all the herbs is to be added of barley chaff.

In the highest and driest apartment of the house.] As a dry and warm air is of service to the ricketty, it is proper for them to sleep in the highest rooms, for the lower apartments are always more or less moist. In the summer, when the sun sets, and even

fooner, a moist dew is observed, which sometimes ascends to the height of six or eight feet, and renders the lower rooms of houses very damp.

[By tossing, shaking, &c.] It was observed at Aph. 28, No. 2, how necessary bodily exercise is in the cure of weak and lax fibres. But every thing there recommended, cannot take place in the cure of the rickets; for muscular force gradually fails in this disease, and all the joints at last become incapable of motion, so that the patient requires the assistance of others, to have the benefit of motion.

Swinging is deservedly recommended, as by this, all the abdominal viscera are agitated and all indurations and concretions resolved; but this, and all other motions, are to be attempted with great caution, as the bones of ricketty patients are so weakened, that they may be broken by even the least force.

[By repeated warm, dry, &c.] All physicians advise frictions, and expect great benefit from them. Let, therefore, the abdomen be rubbed in the morning, when the stomach is empty, with a flannel, impregnated with the steam of *gum benjamin*, *amber*, *olibanum*, and the like. A fumigation of this kind is ordered in the *Materia Medica*. But, as the liver is generally bulky in this disease, and projects beyond the edge of the ribs, the frictions ought to be very gentle, lest any injury should be done to that viscus. Frictions may also be applied to the head and to the back-bone, but they ought to be very gentle, especially to the head, as the sutures of the skull, which are very distant from each other, may, by strong friction be pressed together, and thus the functions of the brain be disturbed.

[By repeated blisters.] As the head is too bulky in ricketty children, those who formerly undertook the cure, attempted to diminish the size of it, and indeed by various means. *Glisson* tells us, that the English quacks scarified the ears, and hardly hoped for a cure without this method. Some also ordered the blood of

of the right ear, received in wool, to be tied to the left hypochondre, and that of the left to the right hypochondre. *Glisson* * thinks this no contemptible remedy, "yet he had seen some children cured without a scarification." This practice is at present abolished, as far as I know; nor have I ever seen it tried. But he expected much greater benefit from issues cut between the second and third vertebræ of the neck, by which he hoped to diminish the size of the head, and the too great increase of the bones; yet he would not have an issue prescribed, but as the last remedy. I confess, that I never advised an issue, yet a cure has been effected, if the disease was curable.

As there is usually an inability in moving the limbs, when the rickets have been of long continuance; and as blisters are of great efficacy in exciting motion in paralytic parts, it is no wonder that physicians have recommended cantharides for the cure of the rickets. But *Glisson* confesses, that he had not experienced the use of blisters in this disease, yet conjectures, that they may sometimes be of material service, when an acute disease is complicated with the rickets.

By gentle vomits.] Namely, when the symptoms shew, that the stomach and abdominal viscera are loaded with bilious, pituitous, or other fordes, yet it cannot possibly be concluded, that vomits are always necessary; for, in the rickets, *the appetite and digestion are very rarely hurt*, and, as the liver is often enlarged, would it be safe to expose this viscus to the violent concussions of the diaphragm and abdominal muscles? Yet, if the symptoms indicate their use, a very gentle one may be given, such as that directed in the *Materia Medica*; but a smaller dose would be safer, as a grain or two of ipecacuanha given in the manner recommended and prescribed by Dr. *Pye*.

By purging, &c.] The swelling of the abdomen in ricketty children, is very different from that which happens after long autumnal agues. *Sydenham* tried

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to

* De Rhocitid. pag. 339. & seq.

to dissolve this tumour in the left side of the abdomen, by repeated purges, but advises purges to be given only once or twice in the rickets, as he had known many children die from the use of repeated purges. For this reason, there is no form of a purging medicine given in the *Materia Medica*, to be taken at one single dose, but a medicated ale for common drink, which the patient is to continue and take so as to evacuate, without debilitating.

And lastly, by a long continued use of strengtheners, &c.] In the rickets the solids are lax, the fluids viscid, cold, and vapid, the membranes, vessels, and viscera, soft and flaccid, and the very bones want their due solidity. All the methods and medicines hitherto recommended, conspire to amend and change these morbid qualities both of the solid and fluid parts of the body. Various simples are recited in the *Materia Medica* for this purpose, all which may be tried in different forms, and many more may be composed upon the same plan.

But as young children reject a number of medicines, physicians have contrived such as contain great efficacy in a small bulk. The *ens veneris* of the famous Boyle is such a remedy, and has been accounted a specific in this disease; nor does it disturb these tender bodies in any manner, as he gave only two or three grains at a dose, and yet it may be taken to 20 or 30 grains, without the least danger, in any distilled water, small-beer, or any other vehicle. When it has any sensible operation, it is by sweat, or urine; and when it produces these effects, it certainly cures the rickets. This medicine was in high esteem in Italy, and Antonio Benevoli says, that he had seen the most happy effects from it in a noble family.

But, as children often refuse all medicines, I have often used the *golden tincture of vitriol of iron*, mentioned by the celebrated Boerhaave^a. A few drops of this given in *Spanish wine*, in the morning fasting, re-
vive

^a Chem. tom. ii. proces. 166, page 444.

vive and excite the vital powers. I have cured numbers of ricketty children with biscuit, and good mellow generous beer, neither sour nor intoxicating, whilst I only sometimes gave two or three drops of this tincture once or twice a day.

Zeviani used this medicine with great success, but abstained from the use of milk, apprehending, that an acid acrimony prevailed in the rickets. The bones certainly lose their firmness, and swell about the *epiphyses*, and we know from experiments, that bones are softened by acids. *De Haen* gave *ostracodermata* two or three times a day in fine powder, to the quantity of a scruple; and if the patients had the benefit of a warm sun in a rural place, of frequent exercise in a child's coach, of a dry bed-chamber, and of a proper diet, they were soon cured. But though they wanted all these helps, they were certainly cured, tho' more slowly.

Storck gave a grain of the extract of *cicuta*, morning and evening, in the worst kind of rickets, and in three months the child was perfectly cured. *Levet* used the *rubia tinctorum*, or madder, for the cure of this disease, and found it of service.

It is remarkable, that the muscles recover their strength and plumpness the sooner, when the disorder is cured by a proper treatment. The strength of the muscles perfectly restores the figure of the bones, without the use of stays, back-boards, bandages, and other contrivances to correct deformities. *Benevoli* has given a remarkable instance of such a cure.

May not the cold bath be of service? Sir *John Floyer* believed, that a neglect of cold bathing was to be numbered among the causes of this new disease. He demonstrates, that in the early ages of christianity, the sacrament of baptism was administered, by a triple immersion of the whole body, and not by one single aspersion of water as is now usual. That no baptismal fonts were erected before the third century, and then not in churches, but without the

walls. That baptism, by immersion, was longer continued in England than in other countries; and, as he believed, that the rickets may be cured by cold bathing, he hence imagined, that baptism, by immersion, preserved infants from this disease, which so frequently appeared in England about the year 1620.

But as infants are seldom seized with the rickets before the ninth month, does it appear credible, that a triple immersion, performed only once, could be preventive of a disease which arises so many months after?

May not liniments also? and of what kind?] All the remedies hitherto directed for the cure of the rickets, are of the strengthening kind, in order to brace the solids, and correct the inert, slimy, vapid, cacochymy of the fluids. Wherefore liniments, which soften and relax, are not proper. It is true, indeed, that *Sydenham* has directed a liniment in swellings of the abdomen; but it is composed of aromatics, bitter, and strengthening herbs, and may, therefore, sometimes be used; but such medicines are not so beneficial as is generally imagined.

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The R H E U M A T I S M.

A P H. MCCCCXC.

THERE is a disease allied to the arthritis, gout, and scurvy, which is very common, and is called the rheumatism.

The name of the rheumatism is seldom to be met with amongst the ancient medical writers; yet they seem to be well acquainted with it, and to have described it under the name of the *arthritis*. The *arthritis*, says *Aretæus*^a, “is a general pain in all the joints; but we call the pain of the feet the *podagra*, of the hips the *ischias*, and of the hands *chiragra*.” In the gout, the patient perceives his health altered, sometime before he perceives the pain in his feet; but the rheumatism oftener seizes of a sudden.

Trallian^b, in describing the gout, frequently makes use of the word *rheumatism*, so that it is not strictly true what the learned *Tralles* affirms, namely, that in the antients we find no mention made of the rheumatism; but it is certainly true, that they gave the name of *arthritis* or *podagra* to all those pains observed in the limbs, and in all the external parts of the body. The word *rheumatism* is also mentioned by *Cælius Aurelianus*^c who is supposed to have lived before *Galen*.

But the rheumatism is not, without reason, said to be allied to the scurvy, if we consider what has been said in the history of the scurvy at Aph 1151. *Eugalenus* reckons arthritic pains amongst the signs of the scurvy, and advises physicians “to distinguish it nicely from the arthritis of the ancients, that the cure

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^a De caus. & sign. morb. duſt. lib. 2. cap. 12. pag. 65.^b Lib. 2. cap. 1. pag. 599.^c Morb. acut. pag. 139.

be not attempted, before the disease and the cure is clearly known." He likewise remarks, that scorbutic pains are chiefly *wandering* in the beginning of the disease, and pass from one joint to another; and, by this *wandering*, they are distinguished from arthritic. *Sydenham* has accurately described a species of rheumatism, which he calls *scorbutic*, and is cured by the same remedies required for the scurvy. Hence the reason appears, why the rheumatism is said to be allied to the arthritis, the gout, and the scurvy.

A P H. MCCCCXCI.

THE procatactic causes of this disease, are a sanguine constitution, attended with an acrimony of the juices, manhood, high living, a sudden admission of cold to the body when over-heated, the influence of the weather in autumn, obstructed perspiration, an inflammatory disposition, but manifesting itself slower than a pleurisy. It begins with a continual fever, creates a most excruciating pain, which is greatly increased upon the least motion; is long fixed in one place, attacks the joints of any of the limbs, but particularly the knees, loins, and coxendix. Sometimes it seizes the brain, lungs, and viscera; is attended with a tumour and redness of the part, and comes and goes periodically.

A sanguine constitution, &c.] In men, who are otherwise healthy, an over-abundance of good blood, will not dispose to the rheumatism, unless some other cause be added, as an acrimony of the fluids, &c. It has been observed, that in those afflicted with the rheumatism, there is no more than $\frac{1}{16}$ part of that salt which

which is found in the urine of healthy people; and *Storck*^a declares, "that in great pain in arthritic and rheumatic fevers, the urine is generally thin, and sometimes voided with a strangury; but when the pain decreases, it is of a red colour, then turbid, soon after fetid, and deposits a white mealy sediment." All which seem to prove some degree of acrimony in the rheumatism.

In treating of chronic diseases at Aph 1051, No. 3, it was observed, that the blood might acquire an acrimony by an acrid diet, and that the rheumatism might be produced by an immoderate use of warm spices in our diet, as *pepper, garlic, onions, mustard,* and the like. *Baynard*^b was of opinion, that rheumatic pains were not to be ascribed to a saline or acid acrimony of the blood, but rather to a viscosity; but it does not thence follow, that there is not also an acrimony, which, being involved in tough, viscid humours, adheres obstinately to the parts affected, and is, with great difficulty attenuated and washed off. Many eminent Physicians agree, that there is a viscid lentor in the parts affected with the rheumatic pains, and affirm, that they have seen it in the bodies of those who died of this disease. *Ballonius*^c saw some instances of this kind, and the famous *Havers*^d believed the mucilage of the joints might be inspissated by acrid humours, but more especially by acids.

High living.] Because by this, the sanguine temperament is increased, and the blood more disposed to become acrimonious.

A sudden admission of cold to, &c.] This is the most frequent cause of the rheumatism, which is also confirmed by the authority of *Sydenham*.

The

^a Annus Medic. Secund. pag. 121.
Abridg. vol. 3, pag. 265.

^b Phil. Transact.
^c Ephemerid. vol. 1, pag. 30.

^d Aph. 22, sect. 3.

[The influence of the weather in autumn.] For, in this season of the year, the mornings and evenings are often cold, and hurt those who incautiously go too thin clothed. *Hippocrates*^a enumerating the diseases of the autumn, reckons amongst them the *ischies*, a name given to the rheumatism when it seizes the hip. *Sydenham* has likewise observed, "that the rheumatism attacks persons chiefly in the autumn, though it may also at any other time.

[Obstructed perspiration.] The celebrated *Simpson* found the matter of perspiration so very subtil, that a shirt, which had been worn a whole night, was not in the morning heavier than it was before, although the body had perspired a whole pound in that time; nay, a shirt worn for three days and nights, is not increased in its weight. Hence some physicians have imagined, that part of that subtil fluid, which is moved through the nerves, is exhaled from the body in the form of perspiration.

[An inflammatory disposition, but, &c.] Blood taken from rheumatic patients, is covered with a white, hard, tough, thick coat, almost like hog's skin; hence is inferred, that there is an inflammatory disposition in this disease; but see what has been said of this kind of blood at Aph. 384.

Dr. Storck^b always found the blood of rheumatic patients covered with such a coat, that the serum did not separate in four or five hours, and what did separate, was but trifling and thick. He sometimes observed, that upon raising with a rod, it had formed itself into threads. From whence he queries, "whether the chief seat of the disorder is not in the serum of the blood? For, on the first or second day, the parts affected were inflated with a white swelling, and so distended, that they could not bear the least touch." Many patients were seized with an universal rheumatic swelling on the third or fourth day, which

^a Osteol. Nov. pag. 226.
& seq.

^b Ann. Med. Secund. pag. 115.

which was very painful. All these symptoms seem to shew, that the chief seat of the rheumatism may be sometimes in the serum, or perhaps in the lymph of the blood. I have myself frequently seen the joints affected with a swelling of a reddish colour.

If this universal tumour of the limbs should suddenly subside, the matter now flowing to one place, will form large lymphatic tumours, which generally seize the hips, knees, or groin. These tumours do not yield to the external application of discutients, nor sudorifics, or diuretics, but to the knife, "when a yellow viscid serum was always discharged, that could be inspissated by a gentle heat." One patient had such a tumour between the *scapulae*, as big as one's head, and, when it was opened, discharged nine pounds of yellow viscid serum.

It begins with a continual fever, &c.] Sydenham has given the following description of this disease: "It begins with a chillness and shivering, which are soon succeeded by heat, restlessness, thirst, and the other concomitants of a fever. In a day or two, and sometimes sooner, there arises an acute pain in some or other of the limbs, especially in the wrists, shoulders and knees, which, shifting between whiles, affects these parts alternately, leaving a redness and swelling in the parts last affected. In the beginning of the illness, the fever, and the above mentioned symptoms do sometimes come together; but the fever goes off gradually, whilst the pain continues, and sometimes increases, occasioned by the derivation of the febrile matter to the limbs; which the frequent return of the fever, from the repulsion of the morbid matter by external remedies, sufficiently shews."

Sometimes, a few hours after the beginning of the fever, a wandering pain is perceived, fixing itself, that same, or perhaps the following day, in this or that place, which sometimes swells, and sometimes not; but touching the part, always augments the pain,

pain, as *Storck*^a has observed. Sometimes rheumatic pains are suddenly excited. An healthy girl, of a sanguine constitution, complained in the autumn, of a pain about the *os ilium*. The day following, stooping suddenly to take something from the ground, the pain instantly increased to a violent degree, and spread itself over the whole right side, leg, and arm; nay, over the right side of the head, which was increased upon the least motion. She was bled, and the menses immediately flowed. On the fourth day, a white, thick, and copious sediment appeared in the urine. On the sixth it was natural, on the seventh the pain left her.

The severer the fever is at the beginning, the more violent the pain. Although the pain seizes this or that joint, yet, when the fever abates, or entirely ceases, it never fixes in one place. I have known the pain remove from the right hand to the left knee, and from thence return to its former place; nay, sometimes to seize the whole body. Other physicians have observed the same. *Storck*^b saw the rheumatic matter which had seized the joints of the hands and feet, dispersed through the whole body, and exciting most exquisite pains, an universal rigor, and sometimes even a *tetanus*. The lower jaw alone remained unaffected, the eyes were distended and bloodshot, the pain caused tears, which were so very sharp, as to corrode the cheeks as they trickled down. Afterwards the breast was affected, attended with a difficult respiration, that threatened a suffocation. Sinapisms were applied to the joints of the hands and feet; in half an hour, a violent pain seized the knees and wrists, and the danger of suffocation was immediately lessened. The belly then was seized with a sudden violent pain, which was presently eased, by voiding some hard, round excrements, upon the injection of a clyster. Moreover, the pain sometimes

^a Ibid. pag. 112, & seq.

^b Ibid. pag. 126, 127.

seizes the groin, and afterwards the *testes*, followed by convulsions and faintings, with a perfect *asphyxia*, for seven minutes, when the pulse returned, and a pleasant sleep followed, with a soft swelling in the knees and wrists, attended but with little pain. Such patients have recovered their health in a short time, by a plentiful discharge of urine, promoted by an infusion of elder flowers in whey.

Sometimes it seizes the brain, lungs, &c.] There is a wonderful disposition in the morbid matter of the rheumatism to change its place, and wander from one part to another. When it seizes the internal parts, the patient is in great danger.

Is attended with a tumour and redness, &c.] This sometimes happens, but not always; for I have seen violent pains, without any tumour or redness of the part, and *Sydenham* remarked this likewise.

And comes and goes periodically.] It is allowed by all physicians, that the arthritis and the gout go off and return by fits; but I believe it will appear, that the rheumatism, from its own nature, has not the same periodical attacks; for, there are many who never feel the rheumatism but once during their whole life.

A P H. MCCCCXCII.

IF the rheumatism lasts long, and increaseth, it often, after the most violent pain, deprives the joint of motion, and produces an anchylosis, scarce removable by any means whatever.

If the rheumatism remains long fixed in any joint, the natural secretion of the articular mucus will be disturbed, and also the excretion of the medullary oil into the cavity of the joint. Hence nodous protuberances in the joints of the fingers, as in the gout, which

which appear more on the internal than on the external parts of the fingers. Hence also incurable anchyloses, both in the vertebræ of the back, and in the other articulations.

A P H. MCCCCXCIII.

THE proximate cause of the rheumatism seems to be an inflammation in the lymphatic arteries of the membranes, which are about the ligaments of the joints, but not so violent as to produce a suppuration. It is cured by bleeding, by antiphlogistic purges frequently repeated, always giving a narcotic after each in the evening; by mild and warm baths, and by antiphlogistic fomentations to the parts affected; by blisters, and even actual cauteries; by such medicines as greatly dilute and soften at the same time. By a thin spare diet, rest, and the warmth of the bed; and towards the end of the cure, by frictions with warm dry cloths, together with the use of antiscorbutics.

It is evident, that the rheumatism belongs to the class of inflammatory diseases, and that the inflammation is in the lymphatic arteries of the membranes, which belong to the ligaments of the joints; but it sometimes attacks also the membranes which invest the muscles, and their tendinous *aponeuroses*, and even the sheaths of the nerves, as will appear in the following aphorism; yet it is remarkable, that a rheumatic inflammation rarely comes to a suppuration. *Boerhaave*, though tortured with rheumatic pains for five months, had no imposthumation. *Raubin* affirms, that the rheumatism seldom comes to an abscess, although the parts affected swell greatly. In a rheumatic

matic pain of the knee, which swelled prodigiously, and where there was a manifest fluctuation, the tumour disappeared in a few days. But *Tissot* saw a large abscess formed in the thigh, in a *lumbago rheumatica*, from a neglect of the patient, which proved fatal.

It is cured by bleeding.] As the proximate cause of this disease is an inflammation, bleeding has been advised by almost all physicians; but the ancients, supposing the cause to reside in the four humours, prescribed a different method of cure, as this or that humour predominated.

Sydenham in general ordered four bleedings, and believed that even an old fixed rheumatism might be cured by the lancet, except when the patient had used a warm regimen, or when the pain had been assuaged by opiates. *Pringle* placed great confidence in bleeding, and directed it every day, until the fever went off, or the pains ceased, or at least were greatly lessened. He was of opinion, that frequent bleedings weakened the body less in the rheumatism, than in any other disease. He likewise applied leeches to the inflamed parts, and suffered the orifices to bleed, till the flux stopped of its own accord. But great circumspection is necessary here, as this evacuation is to be proportioned to the intensity of the disease, and the constitution of the patient.

I have sometimes cured rheumatisms without bleeding, by plenty of diluting liquors, when the fever has been but slight at the beginning; but, when the fever follows a cold fit, with a hard, full, quick pulse, I then advise repeated bleedings, until the dangerous symptoms abated. I seldom saw an occasion for a fourth bleeding. *Dr. Storck* has remarked the same thing.

By antiphlogistic purges, &c.] In the *Materia Medica*, at Aph. 396, there are forms of antiphlogistic purges, by which the rheumatism has been sometimes cured.

cured. *Tissot* has likewise observed, that rheumatisms have been entirely cured by purging.

Sydenham did not give cathartics in the beginning of a rheumatism; the first eight days were appropriated to bleeding. His patient, in the mean time, was kept upon a low diet, and drank barley-water, or small-beer; and on the days he was not let blood, a milk clyster was injected. Afterwards, he directed a gentle purge in the morning; and in the evening, a large dose of diacodium, to restrain the orgasm of the blood, which might otherwise occasion a relapse. But *Sydenham* did not afterwards prescribe such copious bleedings, but made more use of cathartics; for he had learned by experience, "that after the second, or at most the third bleeding, it was better to purge often." Dr. *Storck* followed this method; and as soon as the tumours became soft, he no longer repeated the purges, as too frequent a use of these rather weakened the patient, and prolonged the disease.

Sydenham, when he attempted the cure solely by bleeding, refrained from opiates, because they fixed the disease; however, there were some physicians of a different opinion, and gave them every evening after the first bleeding. I saw this method tried, but it did not answer the prescriber's expectation.

When *convulsions* of the limbs, and *subfultus tendinum* arise from the acuteness of the pains, recourse may be had to opium, in order to alleviate the pain.

By mild and warm baths, &c.] We have already shewn the benefit of these means, when we treated of the cure of an inflammation at Aph. 396. *Sydenham* applied a cataplasm of white bread and milk to the parts affected, or a cabbage leaf. Many dissolve half an ounce of Venice soap, in equal quantities of milk and water, and foment the parts with it continually.

Homberg held an opinion, which to others seemed a paradox, namely, that the rheumatism might be cured by a cold, as well as by a warm bath and sweat. He judged

judged the cause of this disease to be a thin acrid serum, which, finding an exit from the veins, diffuses itself through the muscles, and by vellicating their fibres, disturbs their motion; and, as it is of a very subtil nature, spreads very much; so that the veins, from whence it flowed, cannot resorb it again. The cure, therefore, may be effected, either by carrying off the serum, or by driving it back again into the veins. Heat might carry it off by transpiration, and cold, by contracting the parts, might force it back into the veins; but *Homburg* was rather for the cold bath, as he imagined it would hinder the serum from flowing out of the veins, and dissipate that already extravasated.

About the end of the last age, or the beginning of this, Sir *John Floyer* writ in praise of cold bathing for the cure of various disorders, and chiefly of the rheumatism. He gives the case of a woman, who laboured under a most severe rheumatism; the joints of her elbows, hands, knees, and ancles, were greatly swelled, and so painful, that she could not bear the least motion; her fingers were contracted, and her arms and hands wonderfully distorted. By the use of bathing, the pains and tumours presently abated, and soon ceased. At length she was perfectly cured. From this, and many other cases, the author asserts, "that cold bathing removes rheumatic complaints, by repelling the stagnant humours into the circulating vessels, from which they are afterwards evacuated by sweating."

Cold bathing seems to have been chiefly prescribed for the cure of old rheumatisms, that have not yielded to other methods. But *Antonio Cocchi*, who writ on the baths at *Pisa*, and extols the efficacy of these waters in curing the rheumatism, says, "that when the disorder is recent, or the patient weak, it has been quickly and happily cured, by pouring cold water repeatedly, on the parts affected." I have already observed, at Aph. 390, & seq. that there are two

ways of curing an inflammation; one, by relaxing the obstructed vessels; the other, by constringing them. But the use of repellents and refrigerents are not always of service; for, if they do not answer, they may prove very hurtful. I remember very well, that I attempted, in vain, various methods to cure a *lumbago rheumatica*, and at last effected it by means of a warm vapour of an infusion of *thyme*, directed by a tube to the parts affected.

Blisters.] For blisters carry off part of the morbid matter and irritating acrimony.

Cauteries.] This is almost the last remedy; the old physicians had an high opinion of it, but, it is probable, that they never used it, till all the other means had been tried in vain.

Storck, when all other remedies failed, tried the *cicuta*. He gave it to a man of 42 years of age, who, for many years, had been afflicted with wandring arthritic pains, which increased considerably from the warmth of the bed. He gave ten grains of the extract, made into five pills, morning and evening, with a decoction of the radix *Bardanæ*. Eight days after, the patient returned and complained, that the pains in his shoulder and hip were increased, and that he had a disagreeable tingling over his whole arm and foot. He then took eight pills of the *cicuta*, and went on in the use of the decoction.

About the 14th day, his pains began to abate; a fetid sweat broke out over the whole affected part, as well as his arm and foot. White pellucid pustules, full of an acrid serum, likewise came out. His sensation now, in the affected side, was much better than before; his appetite good, his stools natural, his strength increased, his urine was copious, but hot. He now took 20 pills of the extract of the *cicuta* every day, and persevered in the use of the decoction. On the 20th day, his arm was more plump, and he could move it a little; the pustules were thicker, and itched. On the 36th day, there was a disagreeable heat

heat and itching over the whole body. The pustules broke, crusted all over, and an actual scab appeared. His arm and foot were not so difficult to move, yet strong and sensible. He was then washed twice a day with an infusion of the *cicuta* in milk, by which the scabs came off, but the pustules here and there appeared more thick, and the itching increased. On the 50th day, he could more easily move his arm on every side; his foot was not quite so free, yet was moveable, flexible, and had all the signs of sensation. A drachm of the *cicuta* was now ordered every day, and whey substituted in the room of the decoction. In eight days the itching ceased entirely, the crusts and pustules disappeared, and the patient began to recover. The 69th day he was able to stir about, to move his arm every way, and to walk about an hour and a half, without being much fatigued. The dose of the *cicuta* was now lessened by degrees, and a large quantity of whey ordered to be drank every day; his body was no longer washed with the infusion. On the 80th day he came to return Dr. Storck thanks, being perfectly cured.

Dr. Storck^a after trying the effects of the aconitum, or *wolf's-bane* upon himself, both in powder, and in an extract, concluded, that it promoted perspiration and sweat, and might safely be given in a small quantity, for disorders that required the peccant matter to be thrown off by perspiration. He gave this powder to a man upwards of 30 years of age. This person, in October, was seized with a tertian fever, of which he was cured, and thought himself well; but in November, he was attacked with a most violent pain in his right side; he could scarcely move his hand, his appetite was lost, and his nights were without sleep. He tried for four months all sorts of remedies, gentle as well as strong, both internally and externally, but without any relief; and his pains were sometimes so severe, that he cried out like one

L. 2. who

^a De stramone. hyosc. & aconito. pag. 71 & seq.

who is tortured. He took ten grains of the powder morning and evening, drinking after it weak broth, or any kind of infusion. The first night he sweated plentifully, which he had not done before. Next day he took the same powder, and his pains abated greatly. He sweated again at night; the sweats were fetid, but did not weaken him at all. The third day, three doses of the powder were given, which sweated him at night. He took the same quantity every day until the twelfth; he sweated a great deal every night, and in the day, whilst he kept his bed.

On the 13th day, finding himself very well, he did not take the powders; he found his limbs weak, and some signs of the pain returning. *Storck* then ordered him to take every day 30 grains of the powder for three weeks successively. The patient obeyed, and was perfectly cured. The last two weeks, there were no sweats. Many other cures were happily effected by means of this medicine; from all which, the Doctor affirms, "that the extract of *wolf's-bane* is an innocent, but efficacious remedy. That a small dose of it will sometimes perform, what other very strong medicines given in a large dose, and long continued, cannot effect. It resolves acrid matter adhering to the joints, tendons, and bones, which irritates the nerves, and excites the most tormenting pains; it puts it again into motion, and expels it either by urine, stool, sweat, or insensible perspiration." A woman, 40 years old, who had been tormented a whole year with those pains, and had nodes and tophi in the articulations of her hands and fingers, like true exostoses, and larger in size than walnuts, was in three months perfectly cured, and discharged the hospital. There was no sensible evacuation of the morbid matter, either by stool, urine, or perspiration.

[By such medicines as greatly dilute, &c.] This method is chiefly to be followed in the beginning of the disorder, when there is a continual fever, and a most excruciating pain, that is increased upon the least motion.

mation. Dr. *Brocklesby* * began the cure of a rheumatism with plentiful bleeding, if the patient was of an athletic habit. He then directed a large quantity of thin water-gruel to be drank; to every quart of which, two drachms of pure nitre was added, sometimes sweetened with sugar. If the disease did not abate, he repeated the bleeding, as he found it necessary, and continued the use of nitre for the first three or four days with great success. The patients were greatly relieved, and very often cured by this method, when profuse sweats broke out. At the same time, the belly was kept open by a large quantity of nitre; yet some patients, who sweated plentifully, had their belly bound, which was kept open by clysters: but this method must not be attempted, except in the beginning of an inflammatory rheumatism; for when the disease remits, and in those who are troubled with wandering rheumatic pains, without any fever, or with only a small degree of one, as also in those who are afflicted with a chronic rheumatism, or sciatica, another method of cure is to be followed.

In old rheumatic complaints, that return upon every change of the weather, I have found nothing answer my expectation better, than half an ounce of saffrafras-wood, infused in two pints of boiling water, or a light decoction of the three sanders-wood, or of the five aperient roots. I have advised my poor patients to drink often an infusion of lovage and liquorice-root, made in the manner of tea. These are very cheap, and very effectual remedies.

By a thin spare diet.] *Sydenham* was very rigorous in dieting his patients. He forbade all sorts of flesh, and even their broths, however thin and weak. He allowed only small-beer, barley-water, water-gruel, panada, and the like; or, what is still better, a ptisan made of barley, liquorice, sorrel, &c. But when the rheumatism abates, this rigid diet is no longer required.

L 3

Rest,

* Oeconom. & med. observat. pag. 116.

Rest, and the warmth of the bed.] The kindly warmth of the bed may be of service; for, altho' it is not always proper to promote a profuse sweat, yet it is always necessary to keep up a free perspiration.

And towards the end of the cure, by, &c.] Sometimes the rheumatism leaves a swelling and stiffness in the joints, which, when the pain is greatly abated, may be relieved by frictions. See Cellus, lib. 2. cap. 14. pag. 88.

Together with the use of antiscorbutics.] As the rheumatism is said to be *allied* to the arthritis, the gout, and the scurvy, it is not to be wondered, that antiscorbutics are prescribed in the cure of it. *Boerhaave* drank, in great quantities, the expressed juices of *succory*, *endive*, *fumitory*, *water-cresses*, and the *broad-leaved water-speedwell*, by which he at length recovered his health. To these he sometimes added the bitter juice of *water-trifoil*, which he recommended in his lectures, as a most efficacious remedy. *Storck* gave the juice of *scurvy-grass* and *water-cresses*, with very good success.

Huxham strongly recommends the glass of antimony infused in generous white wine; "for it possesses the whole strength and virtue of antimony. In a large dose, it excites vomiting; in a small dose, as 20 or 30 drops, it brings on kindly sweats; and, in a larger dose, purges gently."

A P H. MCCCCXCIV.

IF the rheumatism fixes itself in the loins, it is called a *lumbago*; if in the hip, the *sciatica*, hip-gout. It is cured in the same manner, tho' with greater difficulty.

The muscular fabric of the loins, the nerves that arise from the spinal marrow, the vertebræ of the back,

back, the tendinous expansions, the deep joint of the hip, covered with strong muscles, the large ischiadic nerves, shew the great uneasiness that must ensue from a rheumatism fixed in these parts, and the great difficulty of effecting a cure. *Hippocrates*^a observed, with respect to the ischias, or sciatica, what we at this very day see often to happen. "When the *sciatica*, says he, attacks, there is a pain in the articulation of the hip, the *nates* and loins, which, at last, wanders over the whole leg." If this be the case, there is reason to suspect, that the ischiadic nerve is affected. *Cotunnus*, therefore, is certainly in the right, in making a distinction between the nervous sciatica, and other disorders of the hip, although they bear a great affinity to each other. The ancient physicians seem to have had some notion of this nervous sciatica. "If the pain, says *Aretæus*, remains in the inward nerves, and the joint should neither have its natural heat, nor swell, I would call it a cold disorder, as hot remedies are required to restore the heat." We often meet with this pain without an inflammation or fever, yet, when they are conquered, the pain still remains. For this reason, perhaps, *cuphorium* was used by the old physicians, for mitigating pains that arose from cold humours. Mustard-seed was also used for the same intention, and so were cantharides.

Cotunnus^b observes, that by the application of a blister in the nervous sciatica, "we have a discharge of a thick tenacious serum, like glue, which often removes the disorder at once. But if this viscid lentor is not drawn off by the first blister, a second ought to be applied as soon as the parts are healed, and even a third, until we have drawn off the viscus matter entirely. He has likewise given us a number of cases, which prove what he has advanced.

There is, therefore, in this disorder, an acrid sharp humour, which, when it is drawn off, relieves the patient; but this acrimony, entangled in a mucous

L 4

tenacious

^a De affectionib.^b De ischiade nervos. pag. 73.

tenacious humour, occasions the obstinacy of the disease, and must be carried off from the part affected, before we can obtain a cure.

The *lumbago* and *sciatica* are rightly ranked amongst the number of chronical diseases. *Cotunnus* saw a man upwards of 70, who, for almost 30 years, had been afflicted with the *sciatica*, but in all other respects a healthy man. *Storck* had a patient in his hospital, who, with a violent fever, had such an acute pain in the vertebræ of the loins, that he moaned both night and day. He was frequently bled, and antiphlogistic remedies were given internally, and applied externally, without any benefit. On the 4th day of the disease, a large blister was applied, which did not give the least relief. Every thing grew worse and worse; and, on the 7th day, he died convulsed. On dissecting the body, the two last vertebræ of the loins were found entirely rotten, and dissolved into a black fetid ichor.

Hence we see the reason, why physicians have endeavoured to carry off the matter of the disease by purging; for corrupted bile, and all acrid and morbid humours are discharged by the bowels. A dysentery, improperly suppressed, has sometimes occasioned the *sciatica*. Great changes in the parts adjoining to the *coxendix*, have sometimes been of service. A certain woman, before she was with child, had always a pain in the *coxendix*; but when she was pregnant, it went off. About 20 days after she was delivered, the pain came on again. The *uterus*, during the time of pregnancy, undergoes a very considerable change, but 20 days after a woman is brought to bed, it is entirely, at least very nearly, restored to its natural state.

Physicians have also expected some relief from a change in the intestines, especially in the *rectum*. *Hippocrates* treating of the *sciatica*, advises a clyster of salt, oil, and barley-water to be injected, in order to wash the bowels, and carry off the blood and pituitous matter from the hips; but in the same place, after giving

giving a Cnidian berry, he ordered an acrid clyster, prepared of cummin seed and coloquintida, incorporated with salt and honey. *Galen* recommends five drops of the acrid juice of the *tithymalus* or spurge, to be taken upon a fig. In treating of the seeds of the *thlapsus* or treacle mustard, he says, "that given in a clyster, they evacuate blood, and are of service in the *sciatica*. *Rhazes* advises sharp clysters, made of coloquintida and nitre, so sharp as to draw blood, and declares, that he has seen this practice tried on a thousand people, and never saw one instance where it failed, unless the disease was so inveterate as to require burning. *Cotunnus* ingenuously confesses, that he had seen acrid clysters tried, and cures performed by them. Quacks, and many country people use a decoction of elder, to which they add a great quantity of the spurge juice, and give in a clyster, which they inject until blood follows. *Cotunnus* was an eye-witness of these experiments, and could not help pitying the poor patients who had undergone this fiery trial, without receiving any benefit by it.

Cotunnus tells us, that he tried all these methods, and even the actual cautery, without any success, in a patient 33 years old. He was twice burnt with a hot iron behind the great trochanter of the thigh, twice salivated, had decoctions of briony injected in clysters till the blood followed. A seton was made in the pained part of the hip, and a great quantity of mercurius dulcis, with antimony, given for three months, so that he spit a great deal, notwithstanding the disease remained as violent as ever.

Cotunnus, considering all these things with great attention, believed that the cause of the *sciatica* might be in the nerves themselves, especially in their trunks, or larger branches. He did not imagine, that there was any acrimony in the subtile fluid of the nerves; but he considered, that the nervous substance, distributed from the head to the whole body, was of a very tender fabric, was every where invested with

with very strong and firm *vaginæ*; and that these had a great number of blood vessels dispersed thro' them, which were pretty large in some of the greater nervous trunks. He likewise imagined, that these vessels secreted a thin lymph, which perpetually nourished and moistened the nervous substance, properly so called; and that this lymph was resorbed by the bibulous veins. If this was not the case, the quantity of lymph would be so great as to produce a dropy of their *vaginæ*. In this lymph there may be something acrid, and capable of exciting great pain in the nervous substance that is contained in, and defended by the membranous *vaginæ*.

Cotunnus divides the nervous *ischias*, or *sciatica*, into the *posterior* and *anterior*; in the former, the pain is fixed in the hip, especially behind the great trochanter, extending above to the *os sacrum*, and below, to the exterior side of the thigh, as far as the ham. This pain seldom ends in the ham, but almost always descends by the exterior part of the *fibula* to the fore-part of the leg, and terminates at last in the foot. The latter is a fixed pain in the groin, which is propagated along the interior part of the thigh and leg.

He says, that the *posterior nervous sciatica* is much more frequent than the anterior, and less troublesome. It fixes on the crural nerve, whose course we may easily trace from the sense of pain; but he could not prove this by dissection, having never met with the body of one who died of this disease: but as to the seat of the pain, he says, "that if the patient will but trace the track of the pain, from the *os sacrum* to the foot, he, like a skilful anatomist, shews the course of the ischiadic nerve."

He placed great confidence in blisters for the cure of the *posterior sciatica*, and applied them to that part where the most remarkable nerves run under the skin. But when the pain was more violent, from the hip to the *fibula*, than from the *fibula* to the foot,

foot, he believed that the greater quantity of acrid matter lay in the vaginæ of the nerve between the hip and the fibula, and was therefore afraid, that by applying a blister to the lower part of the tibia and sole of the foot, the distance, or narrowness of the vaginæ of the nerves in these parts, would prevent the descent and evacuation of the matter; so that he applied one at the head of the fibula, under the knee, and has marked the place exactly, in a figure which he has given of the leg and thigh.

He proves the efficacy of this method by various observations. The patients remarked, that as the blister discharged, the pain above left its place, and descended by degrees towards the blister, until the whole irritating lymph was carried off.

A P H. MCCCCXCV.

HENCE it appears, why this disease is so frequent, and why it appears in such various shapes; and why it is very dangerous when it invades the brain or lungs; why it is so difficult to discover in these parts; why the use of too hot medicines, or an imprudent use of narcotics are so very dangerous.

From what has been said, I think it evident, that the rheumatism is a very common disease; that it sometimes rages epidemically, especially in the autumn; and, as it is caused by catching cold, after being over-heated, or any other way, we see another reason why it is so frequent.

That it is seen in many shapes, appears from its similitude to the *arthritis*, *gout*, and *scurvy*; that it seizes the joints, changes its situation often; sometimes yields to a proper method of cure; sometimes resists every application, produces ankyloses in the joints,

joints, and even in the vertebræ of the loins, is likewise evident.

While the rheumatism attacks only the joints, it is rarely fatal; but when it seizes the brain or lungs, it is highly dangerous, and sometimes occasions sudden death. It is also difficult to find out what disorder it is when it falls on these parts. But when it first seizes the joints, and then suddenly goes off, a skilful physician will see, that there is a translocation of the morbid matter to these parts.

It was also observed, that too warm medicines were dangerous, especially in the beginning; but when the fever went off, or was very much lessened, warm remedies were then proper; that opiates given merely to ease the pain, were hurtful. All these things are confirmed by accurate observations made by the best physicians.



F I N I S.

THE
MATERIA MEDICA
OF
HERMAN BOERHAAVE,
WITH HIS
PRESCRIPTIONS
Selected, Translated, and Adapted
TO THE
ABRIDGEMENT
OF
Baron VAN SWIETEN's Commentaries
UPON THE
APHORISMS, &c.

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ABRIL 1882

OF

FROM VAN SWARTWICHT'S COMMENTARIES

AND THE

AT HOLLAND

1882

T H E

MATERIA MEDICA, &c.

In diseases from a weak and lax fibre.

APH. XXVIII. No. 1.

THE milk of a full grown healthy woman, contains principles proper to strengthen a weak fibre. It is best sucked from the breast, or drank whilst warm; but it must not be heated over a fire. Next to this, asses milk, then goats milk, and that of cows.

The white of a new laid egg, whilst the warmth is in it, mixed with equal parts of milk and water, without putting it over the fire, is a very proper remedy; so is broth made of the flesh of sound young animals, well cleared from its fat, beat and cut into small pieces, and made in *Papin's* digester. If you are not furnished with this machine, any other pot will do; but the more fluid parts will evaporate.

Chicken broth is preferable to that made from any other animal; next to this, veal, then mutton and beef. Broth made of a mixture of these is the richest.

Decoctions, jellies, and crums of bread, are here also of great service. *Decoctions* are made by boiling eight ounces of fine well fermented biscuit in three pints of water, in an earthen vessel, well closed, for the space of an hour, adding more water as fast as it wastes away. When it is well boiled, strain it thro' a sieve. *Jelly* of bread is the same decoction evaporated, till it is thick enough to hang together when thrown upon a cold stone. *Cream* of bread is the same decoction boiled till it acquires the thickness of cream when cold. These mixed with milk, broth, wine, ale, or water, make various kinds of light nourishment,

Diseases from a weak and lax FIBRE.

ishment. The following decoction is very grateful and nourishing.

Take of the decoction ℥j.

Juice of Citrons 3 ℥.

Cinnamon water 3 ij.

Rhenish wine 3 iv. Sugar, enough to make it pleasant.

Dose, an ounce every hour, taken warm. The yolks of eggs added to this, answers the same end, but it should be given in a smaller dose. Rough Florence wines, rough claret, and black Grecian wines, of an astringent taste, are justly recommended; because they strengthen the fibres, and give a flow of Spirits.

APH. XXVIII. No. 4.

Acid austere vegetables.

Egyptian acacia, the fruit, juice, flowers, and bark; the inspissated juice. Dof. gr. iv. to 3 j.

German acacia, the inspissated juice. Dof. from gr. vi. to 3 j ℥.

Sorrel juice, Sharp-pointed dock, the

Anserina, hips, wild tansey, leaves, flowers, seed, & root,

Barberries, the fruit & juice, Medlars, the unripe fruit,

Bistort, or snakeweed, the root, Myrobolanes of all sorts.

Caper bush, the fruit, bark, Dof. from gr. v. to 3 ij.

root, Verjuice,

Quinces and pears, and their Pimpinella, or Burnet,

conferes, Rhubarb,

Fern root, Roses,

Strawberries, Tamarinds,

Pomegranate, the flower, fruit, Tamarisk, the bark,

and bark, Catechu,

Tormentil, the root,

From these may be prepared infusions, decoctions, extracts,

pills, and medicated wines. For example,

An astringent infusion.

Take of the leaves of wild tansey, M. j. Burnet, M. ℥.

Tormentil root, 3 ℥. Cut these into small pieces, and let

them stand covered in ℥j ℥ of hot water for an hour. Dof.

one ounce every three hours in the day.

An astringent decoction.

Take of the leaves of sharp-pointed dock, M. j. Red roses,

3 iv. Tamarisk bark, 3 ij. Sorrel root, 3 iv. Sharp-

pointed dock seeds bruised, 3 ij.

Boil these in steel water ℥ viij. for a quarter of an hour.

Dof. one ounce of the liquor strained 3 or 4 times a day.

Diseases from a weak and lax FIBRE.

An electuary.

Take conserve of quinces, ʒj.

— of red roses, ʒʒ.

Pomegranate flowers, ʒj.

Syr. of myrtle berries, q. s. to make an electuary.

Dos. ʒj. 3 or 4 times a day.

An extract.

Take sorrel leaves, M. viij.

leaves of sharp-pointed garden dock, M. iv.

cinquefoil, M. vij. Make into an extract, f. a.

Dose from gr. x. to ʒij. If you add to this extract, q. s. of Bistort root in powder, it forms a mass proper for pills.

Dos. from gr. iv. to xv.

A medicated wine.

Take seeds of the larger sorrel in powder, ʒvi.

Pomegranate flowers, ʒv.

Caper roots, ʒij.

Bark of the ash-tree, ʒx. Burnet leaves, M. ij. Cut and bruise these small, and infuse in three pints of red port wine.

Dos. 1 ounce 3 or 4 times a day.

Acid austere minerals

Filings of iron dissolved in Rhenish wine, may be given from

ʒj. to ʒiv.

dissolved in white wine vinegar from gr. x. to xxx.

dissolved in oil of vitriol from gr. j. to vj.

Native white vitriol, from gr. j. to iv.

Vitriol of tin, from gr. j. to xxx.

Roman alum from gr. j. to xxx.

From these a great variety of formula's may be contrived.

A powder.

Take of roman alum, ʒʒ.

Rhubarb, gr. v.

Pomegranate bark, gr. iij. mix for one dose.

Pills.

Take vitriol of iron, burnt white, ʒʒ.

Oak galls, ʒʒ.

Tormentil roots, ʒj.

The juice of hypocistis, q. s. make into pills of two grains each, of which one is to be taken 3 or 4 times a day.

Too rigid and elastic FIBRES.

In diseases from two rigid and elastic fibres.

APH. XXXV. No. 1.

Here are proper, 1. The thinner decoctions of bread mentioned at APH. 28. No. 1. 2. The juices of ripe garden fruits, either alone, or boiled in water, and made palatable with sugar. Such are,

Orange juice,	Citrons sweet, & sufficiently ripe,
Elderberry juice,	Figs,
Sweet cherries of all sorts,	Sweet lemons,
Melons,	Mulberries, and such like,

Of these, by boiling, roasting, &c. many palatable kinds of food may be prepared; e. g.

Take of ripe apples pared, No. 10. boil them an hour in water, then mash and press them through a sieve. To this add grated nutmeg, 3 j. grated biscuit, 3 j. Rhenish wine, 3 ij. sugar, q. s.

Pot-herbs of the mildest sort, are,

Potatoes,	Endive,
Beets,	Lettuce of all sorts,
Red cabbage,	Parsnips,
Succory of all kinds,	Turnips,
Artichokes,	Spinage.

The mealy sort, are,

Sweet Almonds,	Barley,	Rice,
Oats,	Millet,	Wheat.

Of these decoctions, creams, &c. may be made, and also emulsions. APH. 28. No. 1.

APH. XXXV. No. 3.

The watery, somewhat oily and mealy, soft and emollient plants, are,

Yellow mallows,	Melilot, flowers and leaves,
Vervain mallows, root, leaves,	Mullen,
flowers, and seed,	Violets,
Chickweed,	Fresh butter,
English mercury,	Cream,
Comfrey, greater and lesser,	Oil of sweet almonds,
Mallow and marsh-mallow	linseed,
leaves, flowers, and roots,	olives.

Syrups of the like nature.

Fernelius's Syr. of marsh-mallows,

of maidenhair,

Syr. of white poppies,

red poppies.

Of these may be made baths, vapours, fomentations, liniments, decoctions, clysters, &c.

Too rigid and elastic FIBRES.

APH. LIV. No. 2.

Against diseases of too strong and rigid viscera.

The quantity of blood is lessened by Venesection, its thickness, 1. by warm water, and whey, 2. by diminishing its quantity and pressure. The pressure is removed, by lessening the quantity, by making it thinner, and, by retarding its motion.

APH. LIV. No. 3.

To this head is necessary rest of body, and quiet of mind.

APH. LIV. No. 4.

Humectants are such as consist of much water, blended with a soapy or mealy substance. Such as,

1. Water boiled with substances,
2. With the emollients,
3. With the garden fruits,
4. With the pot herbs,
5. With river or sea fish, as crabs, oysters, lobsters, &c.

} Enumerated, APH. 35. No. 1.

A moistening, smoothing, softening and resolving broth.

Take of lean veal well beat, ℞ ij.

Pearl barley well cleaned, ℥ ij.

Boil them in 8 pints of water, 3 hours, in a vessel close stopped towards the end. Add of fresh lettuce, ℞ ℞. fresh roots of viper grass, ℥ vj. Boil the whole again a quarter of an hour, adding such a quantity of water, that at last there may be left about 6 pints of broth.

A craw-fish broth.

Take of live craw-fish, ℞ iij. Boil for an hour in 12 plates of water. Then take out and beat them with the shells in a mortar. Boil again four hours in the former broth, always adding water enough to leave 8 pints of the soup. Then the broth is strongly to be pressed out, and boiled again about 4 minutes, putting in borage flowers, ℥ j ℞. Bugloss flowers, ℥ j. Roots of goats-beard, ℥ iv. of skirret, ℥ ij. Of this, and the preceding, ℥ ij ℞. may be taken every two hours.

A decoction to moisten and supple the fibres.

Take seeds of white poppies bruised, ℥ j. Whole oats, ℥ ℞. Red ciches, ℥ iij. Borage, and marsh-mallow flowers, aa 3 vij. Roots of viper-grass, ℥ ij. of liquorice, ℥ ij. Leaves of mallows and pellitory of the wall, aa M. ℞.

Boil these 2 of an hour in two pints of water, then add ℞ of currants and elder berries, aa 3 ij. Do. 3 ij. every hour of the day.

Too rigid and elastic FIBRES.

Lenients are such as remove hardness, i. e. rigidity. See APH. 35. *Emollients* have much the same effect. *Diluents*, of which the principal are pure water, and whey of new milk, used warm, either as drink, bath, fomentation, &c.

Resolvents are those that restore a concremented fluid, to its former state of fluidity. Such are, 1. The *diluents* already mentioned. 2. *Saline* substances, as sea-salt, sal gemm, nitre, sal ammoniac, borax, all alkaline salts, fixed or volatile. Acids well fermented, and compounds from these, as sal polychrest, tartar tartarized, nitre, antimoniated.

3. Soaps, spirituous, aromatic, volatile, and oily salts. — 4. Chymical soaps made of essential oils, and fixed alkaline salts. 5. Every thing sweetened with honey. 6. Juices of ripe garden fruits, and aloes. 7. Mechanical remedies, as frictions, &c. Of the above may be prepared mixtures, drops, pills, and powders. Example,

A resolving mixture.

Take simple rue water, ℥ xij. Venetian borax, ʒ ij. Sal. volat. oleos. ʒ iij. pure honey, ʒ iij. Mix. Dof. One ounce every hour.

Saponaceous resolving pills.

Take Venice soap, borax, the best aloes, aa ʒ iij. Mix, and make into pills of gr. iij. each. Dof. One 4 times a day.

A saponaceous resolving decoction.

Take the fresh leaves of soap-wort, M. ij. Brook-lime, M. ij. Fumetory, M. j. Grass and succory roots, aa ʒ ij. Boil them in water half an hour, in a vessel close stopped; let it settle, and strain off three pints, to which add Rob of elderberries and simple oxymel, aa ʒ iij. Dof. ʒ ij. warm every hour.

A saponaceous resolving powder.

Take of Sperma ceti, and Borax, each ʒ ij. Mix and divide into 8 doses. One to be taken in a little wine every two hours.

Absurgents are such medicines as carry off viscid fluids, or corrupted solids, from parts to which they cohere, by their tenacity; and are, 1. *Diluents*, 2. *Resolvents*, 3. *Saponaceous*, lixivial and fixed salts, with the oxymella.

For spontaneous diseases from an acid.

APH. LXVI. No. 1.

Breaths made from poultry, fish, and quadrupeds, are here proper, and the flesh itself, especially roasted. Jellics, and alkaline salts dissolved in wine, are likewise useful; as, Salt of

wormwood,

Spontaneous diseases from an Acid.

wormwood, ʒ ij. French white wine, ʒ xxiv. Mix. Dof.
One ounce every three hours.

Antacid vegetables.

Wormwood,	Cabbage,	Lesser centaury,
Garlic,	Calamus Aromatic,	Eryngo,
Angelica,	Calamint,	Galangals,
Anise,	Cloves,	Marjoram,
Celery,	Onions,	Cresses, &c.

APH. LXVI. No. 2.

All birds great and small, that feed upon insects, are here proper. Their eggs are also good.

APH. LXVI. No. 3.

Strengtheners are remedies which give an elastic force to the fibres, membranes, vessels, and viscera; such as those enumerated at APH. 28. No. 1. and 4. as also vinous fermented liquors, good ale, brandy, &c.

APH. LXVI. No. 5.

Absorbers of acids are substances, which, upon mixture with acids, destroy their acrimony, so that they can no longer hurt either as an acid or an acrid. However, if they meet with inactive phlegm, they may do hurt both by their weight and quantity. Of this sort are,

Crabs claws, eyes, &c.	Chalk,
Oyster shells,	Bole,
Coral,	Pearl,
Filing of tin to gr. viij.	Filings of iron to gr. xij.

Diluters of acids are water, and the watery liquors mentioned APH. 54. No. 4.

Obtundents of acids are such substances as by their softness and viscosity, so blunt the points of acids as to prevent any bad effects from their sharpness. They may, however, be injurious to persons of a very lax habit. Of this sort are

Almonds, sweet and bitter,	Filberts,
Pistachio nuts,	Walnuts,
Cocoa nuts,	White poppy seeds,

and oils expressed from all these, and from olives. *Jellies* are likewise proper, either from flesh or fish.

Changers of acids are such salts as immediately, upon contact produce an effervescence; they therefore excite motion, stimulate and agitate the fibres, but afterwards uniting with the acid, form a new kind of salt, which still retains a stimulating,

Diseases from a spontaneous GLUTEN?

lating, diaphoretic, diuretic, and resolving quality. They are injurious only to those who are hurt by much exercise. Such are,

All *alkaline fixt salts* prepared from any kind of burnt vegetables.

All *volatile salts* obtained by distillation from the parts of animals, putrid vegetables, or from fresh antacid plants. See APH. 66: No. 1.

All saponaceous substances, whether fixed or volatile.

Against diseases from a spontaneous gluten.

APH. LXXV. No. 1.

The spices, with which our meat and drink may be agreeably seasoned, are chiefly,

Cinnamon,	Nutmegs,	Cloves,
Mace,	Orange peel,	Ginger,
Thyme,	Wild marjoram,	Pepper, &c.

APH. LXXV. No. 2.

Strengtheners, these are enumerated, APH. 28 and 66.

Diluents and Resolvents, at APH. 54. No. 4.

Stimulants, are such medicines as increase the contractile power of the fibres. Of this sort are, 1. All *acido-saline* substances, as juice of citrons, oranges, &c. 2. *Fermented*, as rhenish wine, wine vinegar, tartar, buttermilk, sower whey. 3. *Such as are produced by the action of fire*. As spirit of sea-salt, nitre, vitriol, &c. 2. All *alkaline saline* substances, which are either *fixed* or *volatile*. *Fixed*, as salt of wormwood, tartar, &c. *Volatile*, as salt of hartshorn, and the spirit of sal ammoniac, &c. *Compound*, as common salt, native and artificial sal ammoniac, tartar tartarized and regenerated. *Oils* procured by distillation, as oil of cloves, juniper, mint, rue, &c. *Oils* expressed, as oil of almonds, mace, &c. *Oils native* as Balf. of Tolu, Peru, &c. *Oils acrid and fetid*, distilled by the retort, as oil of eggs, bricks, &c. All *inflammable* spirits, as those of malt liquors, wines, cyder, &c. All *acrid aromatic plants*, as the leaves of wormwood, southernwood, calamint, germander, hyssop, marjoram, &c. All *stimulating aromatic flowers*, especially those from the herbs last mentioned. All *stimulating aromatic roots*, as garlic, angelica, birthwort, horseradish, &c. All *stimulating aromatic seeds*, as those of dill, anise, catraway, mustard, &c. All *stimulating aromatic barks*, as cassiafras, guaiacum, juniper, cinnamon, &c. All *stimulating aromatic juices*, as aloes, gum ammoniac, assafoetida, mastic, myrrh, sagapenum, &c. *Insects* that abound with

Diseases from a spontaneous GLUTEN.

with a stimulating volatile salt, as wood-lice, ants, &c. and also castor, musk, &c.

A stimulating decoction against a spontaneous gluten.

Take leaves of round birthwort, germander, and rue, each M. j. flowers of agrimony and marygolds, aa 3 ℔. roots of angelica, and masterwort, aa 3 vi. the seeds of succory and garden radish, aa 3 iv. saffrafras bark, and cinnamon, aa 3 ij.

Steep in 3 pints of almost scalding water for 2 hours, then boil them about four minutes in a vessel close stopped, then strain off the liquor. Dose 3 j. warm every hour.

A stimulating and attenuating extract, for the same.

Take fresh leaves of wormwood, hemp-agrimony, White horehound, and tansey, aa q. s. press out their juice, which is to be evaporated f. a. into an extract. Add to this $\frac{1}{10}$ part of *Tachenius's* salt of wormwood. Dose 3 ℔. twice a day in a glass of claret.

A stimulating conserve, for the same.

Take the fresh tops of rue and tansey, each 3 j. flowers of Syrian mastic, rosemary, lavender, aa 3 iv. elecampane and swallow-wort, aa 3 j. make into a conserve f. a. Dose 3 j. four times a day, in a glass of white wine.

A warm, stomachic, stimulating electuary.

Take preserved ginger, candied elecampane root, and cinnamon, aa 3 j. Syr. of mint, q. s. Dose 3 ℔. six times a day.

Stimulating stomachic pills.

Take Gum ammoniac and opoponax, aa 3 j. Fresh root of wake-robin, 3 ij. Castile soap, 3 j. Essential oil of tansey, gr. x. Make into pills, each of gr. iij. which are to be gilded. Dose, One every 3 hours. The bile of quadropeds and fish, and saponaceous substances are here likewise proper. Of these last, See APH. 547 No. 4.

APH. LXXV. No. 6.

A bath against spontaneous gluten.

Take of rue, fennel, wormwood, tansey, and chamomile, aa M. iij. Boil in 12 pints of water, to which add, Castile soap, 3 iv. port ash, 3 j. Symplicisms and blisters are also of great efficacy.

Diseases from a spontaneous ALCALI.

APH. LXXVII.

Against diseases from a spontaneous alkali.

Alcalescent vegetables, or those which change the fluids into an alkaline nature.

Wormwood,	Water cresses,	Onions,
Garlick,	Cabbages,	Hedge-mustard,
Wake-robin,	Century,	Garden-cresses,
Asparagus,	Scurvy-grass,	Leeks, &c.

APH. LXXVIII.

Ruminating, and non-ruminating animals, some of which give a milk that quickly turns sour, as the ass, goat, cow, mare, &c.

The flesh of animals that feed on vegetables, is not so apt to putrify and turn alkaline by heat, as that of the carnivorous sort; upon which account it is a more suitable food for men of hot constitutions. Such as,

Lamb,	Goat,	Capon,
Tame duck, } fed on grain,	Doe,	Deer,
Tame goose, }	Roebuck,	Pigeon,
Ox,	Rabbit,	Hare,
Partridge, home fed,	Pheasant, tame,	Mutton, &c.

To this class belong shell-fish and snails.

APH. LXXIX.

Almost all sorts of fishes, as well sea as river, and also birds that feed on these. As,

The wild duck, Wild goose, Heron, Swan, &c.

APH. LXXXVIII. No. 1. See APH. 35. No.

— No. 2. See APH. 75. No. 5.

— No. 5.

A lenient acescent decoction.

Take whole oatmeal, $\mathfrak{z}$ ij. Pure water, $\mathfrak{lb}$ ij. Boil to a quart, strain and add citron juice, $\mathfrak{z}$ j. Cinnamon water, $\mathfrak{z}$ ij. Syr. of mulberries, $\mathfrak{z}$ j.

Let it be taken both for meat and drink.

An anti-alkalic emulsion.

Take of oatmeal, $\mathfrak{z}$ ij. Make a $\mathfrak{lb}$ j. of emulsion with pure water, to which add pure nitre, $\mathfrak{z}$ ss. Syr. of violets, $\mathfrak{z}$ j. Vinegar of squills, $\mathfrak{z}$ ij.

Mix for common drink.

APH.

Against OBSTRUCTIONS.

APH. LXXXVIII. No. 6.

Saponaceous, acid, abstergent, and somewhat oily mixtures.

Take oxymel of squills, $\mathfrak{z}$ iij. Vinegar of squills, $\mathfrak{z}$ ij.
Tinct. of myrrh made with vinegar, $\mathfrak{z}$ j. Succory
water, $\mathfrak{z}$ vj. Mix. Dos. $\mathfrak{z}$ β every hour.

OR,

Take Rob of red currants, elder-berries, $\mathfrak{aa}$. $\mathfrak{z}$ ij.

Simple oxymel, $\mathfrak{z}$ j. Spirit of common salt, gr. xx.

Barley water, $\mathfrak{lb}$ iv. Mix for common drink.

Against diseases arising solely from an excess of the
circulatory motion.

APH. CV.

Removers of pain.

For these, See APH. 202, 228, 229. where they are
particularly treated.

Diseases from a defect of the circulation, and from
a Plethora.

APH. CVI. L. ξ .

Sharp and acrid diet, See APH. 67.

1. Acrid aromatic sauces. See APH. 75. No. 1.

2. Acids, See APH. 75. No. 5. under the title of Saline Acids.

Against obstructions.

APH. CXXXV. No. 3.

Soaps attenuating obstructions.

1. *Native Soaps*, consisting of an alcali and oil, are the
expressed juices of all the alkaline plants enumerated at
APH. 76. or the strong aromatic plants enumerated at
APH. 75. No. 6.

2. *Artificial soaps*, composed of an alcali and oil, as black
soap, castile soap, Starkeys, or Helmonts.

3. *Volatile sooty soaps*, or soot itself.

4. *Alcaline oily spirits*, whether obtained from alkaline
aromatics, APH. 76. from soot, or from the fluid or
solid parts of animals.

APH. CXXXV. No. 4.

Mercurials, as sweet mercury, corrosive sublimate, red
precipitate, white and yellow precipitate, &c.

Astringents, which relax the parts to which the humours
are to be brought, and contract those from whence they are
to be turned, See APH. 35, 28. No. 4.

Of WOUNDS.

Derivants, which propel the fluids into the assigned part. Such are all evacuations at the part itself, and artificial frictions in those adjacent.

Propellents, are such as drive the humours forwards, as the stimulants, at APH. 75. No. 5.

For WOUNDS.

APH. CXCVIII.

Vulnerary plants. Agrimony, ladies mantle, birthwort, betony, comfrey, St. John's wort, lillies of the valley, valerian, centaury, &c.

Vulnerary decoctions and drinks.

1. Attenuating.

Take leaves of woodbine, Paul's betony, and rue, $\text{aa M. j } \beta$. aven roots, 3 j . Flowers of lesser centaury. Pug. ij . Boil in 3 pints of water, then add salt of carduus benedictus, 3 j . Syrup of the five opening roots, 3 iij .
Dof. 3 iv . warm 4 times a day.

2. Inspissating.

Take of orpine, greater and lesser comfrey, mallows, and pellitory of the wall, aa M. j . Boil in 3 pints of water, and add Syr. of marsh-mallows 3 iij . To be used as the former. To this may be added, hypericum, rhaponticum, and rheum.

3. Anodyne.

Take white poppy seeds bruised, 3 iij . Mullein flowers, 3 ij . Bugloss-leaves, M. ij . Root of vipers-grass, 3 ij . Liquorice root, 3 j . Boil in 3 pints of water. To be taken as the former.

4. Gently stimulating.

Take the roots of master-wort, swallow-wort, $\text{aa } \text{3 j}$. Leaves of rue and water-germander, aa M. j . Burdock-seeds bruised, 3 x . Cardamon seeds bruised, 3 iv . Lavender flowers, and lesser centaury flowers, $\text{aa } \text{3 ij}$. Boil in 3 pints of water. To be taken as the former.

5. Particularly correcting.

1. The *Gluten Spontanum*. See the Attenuating decoction above.

2. An Acid.

Take of mustard, $\text{3 } \beta$. Horse radish root, the leaves of hedge-mustard, and cresses, $\text{aa } \text{3 ij}$. Boil them gently in a close vessel with a quart of water. Dof. 3 ij . four times a day.

3. An

Of Wounds.

3. An *Alkali*.

Take roots of sharp-pointed dock, $\mathfrak{z}$ ij. Trefoil, and wood-forrel leaves, $\mathfrak{aa}$ M. ij. Wood-forrel roots, $\mathfrak{z}$ j. Borrage flowers, $\mathfrak{z}$ xij. Boil them gently in a quart of water. To be taken as the former.

4. An *Oil*.

Take tamarinds, $\mathfrak{z}$ ij. Crystals of tartar, $\mathfrak{z}$ vj. Grass-roots, $\mathfrak{z}$ v. Boil them in a quart of water, and add, Syr. of elder-berries, $\mathfrak{z}$ ij. To be taken as the former.

5. Aperient. See Attenuating decoction 1.
6. Relaxing. See APH. 54. No. 4.
7. Astringing. See APH. 28. No. 4. under the title, *Decoction*.

APH. CCI.

Laxatives.

1. Fat flesh-broths. 2. Mild pot herbs boiled therein.
3. Oils of sweet almonds and olives.
2. Figs, garden cherries of all sorts, strawberries, apricots, peaches, common apples, plums, white and blue; Raspberries, white and red; tamarinds, grapes of all sorts, &c.
3. Manna, rhubarb in substance, or infusion; Syr. of succory with rhubarb, solutive syrup of roses, honey, &c.

APH. CCII.

Anodynes and narcotics.

Are those medicines which remove or lessen the causes of pain, as opium and all its preparations.

A warm narcotic mixture.

Take tincture of opium made with rectified spirit of wine, gr. Lxx. Syr. of white poppies, $\mathfrak{z}$ vj. Citron, orange, and Cinnam. water, $\mathfrak{aa}$ $\mathfrak{z}$ ij. Mix. Dos. One spoonful every half hour till the pain ceases.

A narcotic epithem.

Take tinct. of opium made with distilled vinegar, $\mathfrak{z}$ iij. Elder-flower, and rose-water, $\mathfrak{aa}$ $\mathfrak{z}$ iij. Vinegar of elder, and roses, $\mathfrak{aa}$ $\mathfrak{z}$ β . Mix, and apply with cloths to both the temples.

An emollient narcotic cataplasm.

Take fresh leaves of garden poppies, M. j. Black henbane, M. β . Marsh-mallows, M. iv. Boil them in new milk, and towards the end add, Linseed meal, $\mathfrak{z}$ j. Fresh drawn linseed oil, $\mathfrak{z}$ ij. Mix.

OF WOUNDS.

APH. CCIV.

Soft vulnerary balsams for simple wounds.

1. Native balsams.

Balsam Capij,	Opobalsamum,
—— of Gilead,	—— of Peru,
—— of Meccha,	—— Tolu,
Chio turpentine,	Honey.

2. Artificial balsams.

Rectified oil of wax,	Linseed oil,
Thick oil of turpentine,	Oil of roses,
Oil of nightshade,	—— St. John's wort.

3. Compound balsams.

Balsam of sulphur.

Take flowers of brimstone, $\mathfrak{z}$ iv. Linseed or olive oil, $\mathfrak{z}$ iv.
Boil over a gentle fire, till the sulphur is wholly dissolved.

Another balsam.

Take pure gum elemi cut small, p. j. Dissolve it on a slow fire, and add, pure turpentine, p. j. When dissolved, add ox's marrow boiled and separated from the membranes, p. ij.

This is an universal balsam, like that of *Arceus*. These balsams are to be dropped warm into the wound, and a pledget dipped into the same laid over it. Dress it once in 24 hours.

APH. CCV.

A red defensative plaster.

Take oil of roses and white wax, $\bar{a}\bar{a}$ $\mathfrak{z}$ vj. Armenian bole and dragon's blood, $\bar{a}\bar{a}$ $\mathfrak{z}$ j β . Red roses powdered, $\mathfrak{z}$ β . Mix, and stir them till cold. To these may be added, the red-lead plaster.

APH. CCVII.

A digestive.

Take genuine turpentine, $\mathfrak{z}$ j. the yolk of one egg. To these well mixed add, honey of roses, $\mathfrak{z}$ β .

An abstergent.

Take aloes, myrrh, leaves of scordium, powdered, $\bar{a}\bar{a}$ $\mathfrak{z}$ ij. Venetian soap, scraped small, $\mathfrak{z}$ j. To these well mixed together, add, of the preceding digestive, $\mathfrak{z}$ iij.

Corrodents.

For HÆMORRHOIDS.

Corrodents.

1. The mildest sort, Burnt allum,
Mercurius dulcis,
White precipitate,
White vitriol.
2. A stronger sort, Red precipitate,
Colcothar of vitriol.
3. The strongest, Butter of antimony,
Lapis infernalis,
Corrosive sublimate, &c.

The stronger the caustic, the more cautiously ought they to be used.

A drying ointment.

Take of verdigrease, $\frac{3}{4}$ v. Crude allum, $\frac{3}{4}$ j.
Strong vinegar, $\frac{3}{4}$ vij. Pure honey, $\frac{3}{4}$ xiv.
Boil to the consistence of an ointment.

Drying medicines.

Allum gently calcined,	Unslacked lime-water,
Blood-stone levigated,	Mastic,
Gum sarcocol,	Dragon's-blood.

APH. CCIX.

Sarcotics.

The vulnerary balsams mentioned, APH. 204.

Take yellow wax, black pitch, and common rosin, aa ss ss .
Linseed oil, ss ij. Mix.

APH. CCXII.

Sticking plasters.

Take of diapalma and oil of olives, aa q. s. dissolve. Or
common pitch spread on linen.

APH. CCXVII.

Cicatrizing medicines.

Red drying ointment,	Ointment of tatty,
White plaster boiled,	Calamine plaster,
Red-lead plaster,	Thus, Olibanum, &c.

For Hæmorrhages.

APH. CCXVIII.

Corrosives.

White vitriol, lapis infernalis, oil of vitriol.

IN CONVULSIONS.

Astringents.

1. Which contract the vessels, as;
Alcohol, Juice of unripe quinces,
Spirit of turpentine, Puff balls,
Dragon's blood, Crocus martis.
2. Which coagulate the blood, as;
Alcohol, Spirit of nitre,
Fine meals, — of sulphur,
Calcined vitriol, Sugar of lead, &c.

APH. CCXIX.

Such as mastic, olibanum; and turpentine boiled till it becomes hard.

In Pains.

See APH. 202, and APH. 228, 229.

In Convulsions.

APH. 234. No. 4. See APH. 66, 88.

APH. CCXXXIV. No. 4.

Such is the broth of fresh flesh.

APH. CCXXXV.

Antispasmodics.

1. Relaxants, APH. 35. No. 1. APH. 54. No. 3. Crab's eyes.
2. Diluents, APH. 54. No. 4. Pearl.
3. Resolvent, ibid. Hartshorn, &c.
4. Absorbents, APH. 66. No. 5.
5. Opiates, See APH. 202.
6. Such as quiet the nerves, as oil of turpentine,
Bals. capivi, &c.

APH. CCXXXVI.

Coagulated blood is diluted by the following, or such like medicines.

Take honey, $\frac{3}{4}$ ij. Venetian soap, $\frac{3}{4}$ ij. Sea-salt, $\frac{3}{4}$ iv.
Rain-water, $\frac{3}{4}$ xij. M.

Take aloes dissolved in water, well purified from its resinous
feces, and again gently evaporated to a proper con-
sistence, $\frac{3}{4}$ iv. Sal ammoniac, bofsa, aa $\frac{3}{4}$ ij. Pure
honey, $\frac{3}{4}$ ij. French white wine, $\frac{3}{4}$ ij. Rain-water,
 $\frac{3}{4}$ ix. M.

These medicines injected warm dilute and resolve coagulated
blood, and preserve it from putrefaction.

In Wounds of the H E A D.

In the cure of wounds of the head.

APH. CCXLVII.

All medicines which attenuate, dilute, and preserve from putrefaction, are here serviceable.

1. Let the following ointment be applied, spread on pledgets.
Take turpentine, $\mathfrak{z}$ ij. Yolk of one egg. To these well mixed, add, Basilicon, $\mathfrak{z}$ ij. Purified aloes, $\mathfrak{z}$ iv.
2. Over this, lay the following plaster.
Take gum galbanum strained, and beat up with the yolk of an egg, $\mathfrak{z}$ iv. Yellow wax, $\mathfrak{z}$ ij. Oil of St. John's-wort, $\mathfrak{z}$ iij. M.
3. Then apply the following fomentation as hot as the patient can bear it.

Take leaves of rue, water-germander, fresh gathered, aa M. ij. Flowers of lesser centaury, elder and roses, aa $\mathfrak{z}$ iij. Boil in water to about $\mathfrak{z}$ xxx. to which add, Spirit of wine, $\mathfrak{z}$ v. Venetian soap, $\mathfrak{z}$ ij.

APH. CCLII. No. 2.

Take single rectified spirit of wine, $\mathfrak{z}$ j. Rose water, $\mathfrak{z}$ β . Gum mastic pulver. $\mathfrak{z}$ iij. Boil in a tall viol and keep it therein for use.

APH. CCLXXIX.

Purgatives here serviceable, are,

- Take pure syrian scammony, gr. xiv. Hungary water, $\mathfrak{z}$ ij. To these ground in a glass mortar, and separated from their fæces, add, Solutive syr. of roses with senna, $\mathfrak{z}$ vj. M. OR,
- Take jalap-root pulver. $\mathfrak{z}$ j. Loaf sugar, $\mathfrak{z}$ ij. Grind a long time in a glass mortar, adding gradually rain-water, $\mathfrak{z}$ iij. To which add Syr. of rhubarb, $\mathfrak{z}$ β . M.

APH. CCLXXXI. No. 2.

An attenuating, diluting, watery decoction here proper.

Take white saunders wood, $\mathfrak{z}$ β . Yellow saunders, $\mathfrak{z}$ j. Sassafras, $\mathfrak{z}$ β . Leaves of rue, M. β . Agrimony, M. j. Arabian lavender, common lavender, aa $\mathfrak{z}$ ij. Roots of fennel, parsley, and butcher's broom, aa $\mathfrak{z}$ j. Boil in a close vessel with lb iv. of water $\frac{1}{4}$ of an hour. Dos. $\mathfrak{z}$ ij. every half hour.

APH. CCLXXXI. No. 3.

See APH. 247. No. 2, 3.

For CONTUSIONS.

APH. CCXCV.

Of these remedies we have treated in the history of inflammation, suppuration and gangrene.

APH. CCCIII. No. 3.

See APH. 336.

In wounds of the abdomen.

APH. CCCVI.

An antiseptic fomentation to revive the vital heat when the intestine is let out by a wound in the abdomen.

Take the intestines of some young animal, q.s. Cleanse and boil them in a sufficient quantity of water about 4 minutes, then add, Flowers of chamomile, lavender, and centaury, āā. M. β. Leaves of mint, M. j. Let them stand about 4 minutes to infuse, and then use for a fomentation. Warm new milk is likewise a proper fomentation.

APH. CCCXIX.

Fomentations, See APH. 315.

APH. CCCXX.

A gently stimulating clyster in wounds of the abdomen.

Take honey, ℥ iij. Sea-salt, ʒ j. Barley-water, ℥ viij. M. To be injected morning and evening for the 3 first days after the wound has been received. Let the diet be only flesh-broth, with a little salt.

For Contusions.

APH. CCCXXXIV.

A purge strong and not inflaming.

Take of agaric, ʒ ij β. Sal polychrest. ʒ j. M.

OR,

Take middle bark of green dwarf, or common elder, ℥ j. Bruise and boil a little, in as much rain water as will, by expression, make a draught of ℥ iv. Or of jalap in powder, ʒ j β. Or as prepared at APH. 279.

A fomentation, relaxing, penetrating, and resolving.

Take white briony-root, ℥ ij. Round birthwort-root, ℥ j. Fresh leaves of rue, and favin, āā. M. j. Flowers of tansey, chamomile, and severfew, āā. ℥ j. Fresh Onions, ℥ vj. Digest them in water almost boiling hot,

IN INFLAMMATIONS.

hot, half an hour, then boil them a moment, and to 25 oz. of the strained liquor, add of linseed meal, $\frac{3}{4}$ lb. Let them just boil up again, and, when cold, add to the whole decoction, treacle-water, $\frac{3}{4}$ ij. Sal ammoniac, $\frac{3}{4}$ j. Apply it with woollen cloths.

Of the same ingredients may be made a cataplasm, to which, about the end, add Linseed meal, q. s. Galbanum dissolved with the yolk of an egg, $\frac{3}{4}$ j. Oil of chamomile, $\frac{3}{4}$ lb.

Plasters are here proper, as, Empl. de galbano, de melitoto, &c. and also, Internal resolvents, for which, See APH. 54.

No. 4. *Sudorifics* and *Diuretics* have also their use.

In Inflammations.

APH. CCCXCVI. No. 2.

Cooling Purges.

These are Cream of tartar, $\frac{3}{4}$ j.	Sal polychrest, $\frac{3}{4}$ v.
— Crystals of tartar, $\frac{3}{4}$ j.	Tamarinds, $\frac{3}{4}$ iv.
— Tartar itself, $\frac{3}{4}$ j.	Rhubarb, $\frac{3}{4}$ lb.

A revelling antiphlogistic purge.

Take Rhubarb, $\frac{3}{4}$ j. Sal polychrest, $\frac{3}{4}$ lb. Syr. of succory with rhubarb, $\frac{3}{4}$ j. Mix well together and dissolve in elder-flower-water, $\frac{3}{4}$ ij. Cinnamon water, $\frac{3}{4}$ j. M.

An antiphlogistic purging bolus, diminishing the force of the blood.

Take pulp of tamarinds, $\frac{3}{4}$ ij. Crystals of tartar finely powdered, $\frac{3}{4}$ iij. Mix. Dose, $\frac{3}{4}$ j. every 7 or 8 minutes till it operates.

A draught of the same kind.

Take senna, $\frac{3}{4}$ j. Agaric, $\frac{3}{4}$ j. Tamarinds, $\frac{3}{4}$ ij. Boil in elder-flower-water, q. s. a quarter of an hour; to $\frac{3}{4}$ v. of the strained liquor, add, Purified nitre, $\frac{3}{4}$ j. Syr. of roses with senna, $\frac{3}{4}$ j. Mix. For the rest see APH. 334.

APH. CCCXCVI. No. 4.

Epispatics.

Are medicines which attract the fluids to some particular part, APH. 135. No. 4. or derive, or propel them from it.

APH. CCCXCVI. No. 5.

A diluting and cooling decoction.

Take roots of sorrel, $\frac{3}{4}$ ij. Common grass, vipers-grass, aa. $\frac{3}{4}$ iij. Boil in water, q. s. for 7 or 8 minutes,
b 3
then

For Abscesses.

then add, Flowers of borrag, bugloss, roses, and violets, digest them in a close vessel 7 or 8 minutes, and to three pints of the strained decoction, add, Pure nitre, ʒij. Rob. of elder-berries, ʒij. Dof. ʒij. every hour.

A diluting, cooling, antiphlogistic mixture.

Take elder flower-water, ʒxv. Rob. of elder, ʒij. Pure nitre, ʒj. M. Dof. ʒj. every hour.—An emulsion of the like virtues may be prepared of the bruised seeds of burdock, parsley, and succory, with q. s. of parsley-water. To ʒxij. of which add, Pure nitre, ʒj. Syr. of the 5 opening roots, ʒj. Dof. ʒj. every hour.

APH. CCCXCVI. No. 5.

A cooling resolving powder.

Take diaphoretic antimony unwashed, ʒj. Sal prunel, ʒß. Zedoar, ʒj. M. for 6 doses, one of which may be taken every 3 hours, in any ptisan.

APH. CCCXCVIII. No. 1.

An aromatic decoction.

Take white, yellow, and red saunders, aa ʒj. Roots of carline thistle, ʒj. Parsley and fennel roots, aa ʒij. Rest-harrow, ʒij. Boil in water half an hour, and add, Sassafras, ʒij. Leaves of betony, rue, scabious, and colts-foot, aa M. j. Let them stand in a close vessel to digest half an hour, then strain off 5 pints of the liquor. Dof. ʒij. drank warm every hour.

APH. CCCXCIX.

No. 1, 2, 3. See what has been said in the chap. of Obstruction from APH. 107 to 144.

For Abscesses.

APH. CCCCIII.

Ripeners are,

1. Simple aromatic gums; as,

Gum ammoniac,	Gum galbanum,
elemi,	opoponax, &c.
2. Emollients, Laxants, & Humectants. See APH. 54. No. 4.

A softening, maturing cataplasm.

Take of rye-meal, ʒiv. Vinegar, ʒij. Galbanum dissolved, ʒj. Boil in water, q. s. to a proper consistence, and towards

FOR FISTULAS.

towards the end, add, Oil of white lillies, $\mathfrak{zj}$. M.—
OR, Take oat-meal, $\mathfrak{zj}$. Linseed meal, $\mathfrak{zij}$.
 White lilly roots, $\mathfrak{zij}$. Marshmallow-flowers, $\mathfrak{zj}$.
 Boil in new milk, q. s. and add, fresh butter, $\mathfrak{zij}$.
 Mix for a cataplasm.

APH. ccccliii. No. 3.

The decoction given at APH. 398. No. 1. is sufficient
 to excite the vital motions.

APH. cccclix.

An emollient, oily, subacid cataplasm, resolving
 the dead teguments.

Take four ale yeast, $\mathfrak{zij}$. Venetian soap sliced, $\mathfrak{zij}$. Honey,
 $\mathfrak{z}\beta$. Oil of chamomile by infusion, $\mathfrak{zij}$. M.

The prescriptions at APH. 403. No. 1, 2, &c.

APH. cccclxii.

The caustics here proper are,
 Lapis infernalis, Butter of antimony, &c.

For Fistulas.

APH. cccclxv.

A digestive injection.

Take native turpentine, $\mathfrak{zij}$. Yolk of eggs, $\mathfrak{zj}$. To these
 mixed, add, Honey, $\mathfrak{zij}$. Spirit of wine, $\mathfrak{ziv}$. M.
 Let it be injected warm. **OR,**

Take Arcaeus's liniment, Yolk of eggs, $\mathfrak{aa}$. $\mathfrak{zj}$. Mix and
 dissolve in common Spirit of wine, $\mathfrak{zviij}$. Use as the
 former.

A deterfive injection.

Take honey of roses, $\mathfrak{zij}$. Elixir proprietatis made with
 Salt of tartar, $\mathfrak{z}\beta$. Soap-suds, $\mathfrak{zviij}$. Mix.

A balsamic decoction to consolidate clean fistulæ.

Take roots of the larger birthwort, $\mathfrak{zij}$. Dry leaves of
 water-germander, $\mathfrak{zxx}$. to which add, Juniper-berries
 bruised, $\mathfrak{zj}$. Boil in weak spirit of wine in a tall viol
 one hour, and to $\mathfrak{zxx}$. of the decoction, add, Venetian
 soap, $\mathfrak{zj}$. Use it as the former.

When the Fistula is clean, it is consolidated by the following
 Injection.

Take oil of St. John's wort, $\mathfrak{ziv}$. Aloes, myrrh, and Frank-
 incense, $\mathfrak{aa}$. $\mathfrak{zij}$. Boil them gently, and when mixed,

FOR A GANGRENE.

beat up with whites of eggs, ℥ij. Inject it warm into the clean fistula.

For a Gangrene.

APH. CCCCXXXIV. No. 1.

A mixture to raise the spirits in a gangrene from a hot cause, and alkaline constitution.

Take the fresh juice of Citrons, ℥ij. Of oranges, ℥j. Syr. of mulberries, ℥ij. Citron water, ℥iv. Baum water, ℥ij. Cinnam. water, ℥j. Rhenish wine, ℥vj. Sugar, q.s. M. Dof. ℥j. every hoar or half hour. OR,
Take Rob. of red currants, barberries, aa. ℥ij. Spirit of salt, ℥℥. Baum-water, ℥vj. Rhenish wine, ℥x. Dof. ℥j. every hour.

A mixture in a cold gangrene, in a phlegmatic, or acid constitution.

Take Sal. volatile oleof. ℥ij. Elix. proprietatis made with Salt of tartar, ℥ij. Matthiolus's aqua vitæ, ℥ij. Citron water, ℥vj. Syr. of the 5 opening roots, Fernelius's syr. of mugwort, aa. ℥j. Confect. of alkermes, ℥ij. M. Dof. as the former.

APH. CCCCXXXIV. No. 2.

In an acid habit, give the remedies directed at APH. 66. No. 1. 2.
In an alkaline habit, those directed, APH. 88. No. 5. 6.

APH. CCCCXXXIV. No. 3.

Epithems. In a warm alkaline habit.

Take Rhenish wine, ℥bj. Cinnam. cloves, mace, and nutmeg, aa. ℥ij. Boil in a tall glass phial in sand. Toasted bread moistened in this decoction is to be applied under the axillæ, hams, &c.

— In an acid, cold habit.

Take Sal volatile oleof. ℥℥. Spirit of citron peels, ℥ij. Of lavender, mint, aa. ℥j. Of treacle, ℥ij. Mix and apply it as the former.

APH. CCCCXXXV. No. 2.

An emollient antiseptic and resolvent fomentation preventing putrid matter getting into the blood.

Take leaves of rue fresh-gathered. M. iv. Mallows, M. ij. Jack by the hedge, M. j. Linseed-meal, ℥j. Boil in

FOR A GANGRENE.

in water, q. s. and to four pints of the decoction, add, Venetian soap, $\mathfrak{z}$ ij. Apply it with woollen cloths.

A cataplasm of the same kind,

Take flowers of melilot, elder, marsh-mallows, chamomile, marigolds, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ ij. Boil in water, q. s. into a cataplasm, adding towards the end Linseed-meal, $\mathfrak{z}$ j. and oil of the same, $\mathfrak{z}$ j β . M.

A P H. CCCCXXXVIII.

The following medicines in a special manner preserve the fluids from putrefaction.

Sal Ammoniac,	Distilled vinegar, and those of
Borax,	rue, marigolds, roses, squills,
Sea-salt regenerated after distillation of Sal Ammoniac,	lavender, &c.
Sal Gemm,	Spirit of salt, nitre, sulphur by the bell, &c.
— Nitre,	Wines, especially Rhenish.

Aromatics here generally proper.

Southernwood,	Angelica,	Germander,
Wormwood,	Costmary,	Marjoram,
Jack by the hedge,	Centaury,	Dittany of Crete,
Rosemary,	Rue, and Lavender,	&c.

A fomentation to correct incipient putrefaction.

Take leaves of rue, water-germander, and wormwood, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ iv. Mint, $\mathfrak{z}$ j. Boil in water and vinegar, $\mathfrak{a}\mathfrak{a}$. p. $\mathfrak{a}$. To 4 pints of the decoction add, Sal gem. $\mathfrak{z}$ iv. Spirit of wine with theriaca, $\mathfrak{z}$ ij. M.

An antiseptic cataplasm.

Take the above ingredients, and boil to the consistence of a cataplasm; towards the end add, Sal ammoniac, $\mathfrak{z}$ iv. Linseed-meal, $\mathfrak{z}$ ij. Oil of rue by infusion, $\mathfrak{z}$ j β . Mix, and when it is to be applied sprinkle it over with camphorated spirits, or with spirit of wine with theriaca.

A P H. CCCCXLVIII.

A warm liquor against putrefaction.

Take vinegar of garden taragon, $\mathfrak{z}$ vj. Of roses, $\mathfrak{z}$ ij. Spirit of wine with theriaca, sea-salt, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ j. A decoction of water-germander, $\mathfrak{z}$ xij. Mix for a fatus.

An excellent cataplasm to soften gangrenous eschars.

Take leaves of water-germander, M. ij. Mallows, M. j. Flowers of lavender, marsh-mallows, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ j. Boil to

In a SPHACELUS.

to a cataplasm in vinegar, and add, Linseed-meal, $\mathfrak{z}$ iij.
Linseed oil, $\mathfrak{z}$ j. Sal ammoniac, $\mathfrak{z}$ j. M.

APH. CCCCL.

An emollient, diaphoretic, anodyne cataplasm.

Take fresh leaves of male southern-wood, roman wormwood,
garden rue, water-germander, jack by the hedge, hemp
agrimony, white hoarhound, tobacco, $\mathfrak{a}\mathfrak{a}$. M. β . Hen-
bane, M. j. The flowers of marsh-marigold, lesser
centaury, melilot, mother-wort, tansey, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ ij.
Flowers of marsh-mallows, wild poppies, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ j. Boil
one quarter of an hour in water, q. s. and add, Linseed
meal, $\mathfrak{z}$ iv. Oil of rue by infusion, $\mathfrak{z}$ ij. Spirit of
wine with theriaca, vinegar of the same, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ j. Sal
ammoniac, $\mathfrak{z}$ j. M.

APH. CCCCLVI.

A cardiac mixture in a gangrene from a cold cause.

Take treacle water, $\mathfrak{z}$ j. Sylvius's prophylactic water, $\mathfrak{z}$ vi.
Aq. vitæ of Matthiolus, $\mathfrak{z}$ j. Rue water, $\mathfrak{z}$ ix. Fer-
nelius's syr. of mugwort, Syr. of the 5 opening roots,
 $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ j. β . Elix. proprietatis in salk of tartar, $\mathfrak{z}$ ij. M.
Dol. One spoonful every 8 minutes, with an ounce or
two of the following mixture.

Take barley-water, $\mathfrak{lb}$ ij. French wine, $\mathfrak{lb}$ j. Ginger pul-
veriz. $\mathfrak{z}$ ij. Syr. of Jerusalem-oak, $\mathfrak{z}$ iij. M. Or,
Take camphire, gr. viii. Theriaca, $\mathfrak{z}$ ij. Ginger, $\mathfrak{z}$ iij.
Dol. $\mathfrak{z}$ j. every two hours.

In a Sphacelus.

APH. CCCCLXII.

A sharp lixivium.

Take unslacked lime made of burnt-stones, p. j. Cover it
with pot-ashes, p. iij. Let them stand to liquefy in
some damp place, then filtre it for use. Unslacked lime
reduced into a fine powder may be sprinkled on the part.
But the most effectual separations are made when the
dead eschars are softened, converted into pus, are made
to recede from the sound part by the application of a
putrefying remedy, whilst, at the same time, the living
parts are animated by a spirituous somentation, as that
directed, APH. 435. No. 2.

APH.

Of BURNS.

APH. CCCCLXIX. No. 5.

A cardiac anodyne powder.

Take essential oil of cinnam, gr. ij. Of cloves, gr. j. Of citron peel, gr. ij. Sugar, ʒij. Mix and add, red coral prepared, ʒj. Pure opium, gr. ij. Mix for two doses, one of which is to be taken one hour before the operation, and the other one quarter of an hour before it, if the patient has not slept.

APH. CCCCLXXI. No. 5.

An astringent powder to stop bleeding in external wounds.

Take dragon's blood, ʒj. Sarcocol, ʒij. Blood-stone, ʒß. Armenian bole, ʒviii. Make into a fine powder.

Of Burns.

APH. CCCCLXXIX.

A cooling antiphlogistic mixture.

Take the fresh leaves of the greater houseleek, ʒij. Bruise and press out the juice, to which add, Syr. of roses, violets, āā. ʒj. Nitre, ʒß. Spirit of salt, gr. x. Rain-water, ℥ij. Mix, and use for a drink.

APH. CCCCLXXX.

A fodus to preserve the burn from putrefaction.

Take vinegar of litharge, ʒij. French wine, ʒxii. Elder-flower water, ʒxiv. Mix for a fodus.

An emollient resolving cataplasm.

Take leaves of mallows, marsh-mallows, āā. M. ij. Flowers of melilot, ʒij. Boil in water, and towards the end, add, Linseed-meal, q.s. Spirit of wine with theriaca, ʒj. Linseed oil, ʒß.—Fresh butter washed in cold water till it becomes white, q. v. to which add the spawn of frogs, and juice of houseleek, āā. p. æ. and you will have an ointment of the like kind.

For a Scirrhus.

APH. CCCXC. No. 1.

A resolving emollient fodus in a scirrhus.

Take flowers of marsh-mallows, chamomile, melilot, and elder, āā. M. j. Lesser centaury, M. ß. Leaves of wormwood, white hoarhound, rue, and fennel, āā. ʒ. iv.

Roots

Of a SCIRRHUS.

Roots of white briony, $\mathfrak{z}$ iv. Garden angelica, $\mathfrak{z}$ j.
Boil in water, q. s. and to $\mathfrak{lb}$ iv. of the decoction pressed
through a cloth, add, Spirit of wine with theriaca, $\mathfrak{z}$ iv.
Apply it on woollen cloths to the bare skin, covering
them over with a hog's bladder moistened with oil.—
A cataplasm of the like kind may be made of the ingre-
dients, adding Galbanum dissolved in the yolk of an
egg, $\mathfrak{z}$ iij. Linseed-meal, $\mathfrak{z}$ ij. Linseed oil, $\mathfrak{z}$ iij. M.

A resolving plaster,

Take gum ammoniac, galbanum, sagapenum, opeponax, $\mathfrak{aa}$.
 $\mathfrak{z}$ ij. Melt them over a slow fire, and mix accurately
with the yolks of 4 eggs well beat up, Yellow wax, $\mathfrak{z}$ ij.
Meal of white briony root, $\mathfrak{z}$ iij. Oil of rue by infu-
sion, f. empl. f. a.

APH. cccxc. No. 4.

The diet should consist of new milk, butter-milk, and whey,
Of broths made of the flesh of quadrupeds and birds.
Of pulse, as oatmeal, barley, millet, wheat, &c.
Of the pot herbs enumerated at APH. 35. No. 1.
Of mild ripe garden fruits, both sweet and sour, especially
when boiled.
Of gruels, panadas, &c. Let the drinks be decoctions of
China, Sarsaparilla, the 3 Saunders, &c.

An anodyne decoction, in an incurable scirrhus.

Take white poppy seeds bruised, $\mathfrak{z}$ ij. Fennel-root, $\mathfrak{z}$ iv.
Wild poppy flowers, $\mathfrak{z}$ vj. Mallow-leaves, M. j. Boil
a quarter of an hour in a sufficient quantity of water.
To $\mathfrak{lb}$ ij. strained, add, Syr. of white poppies, $\mathfrak{z}$ ij $\mathfrak{ss}$.
Dof. 3 or 4 ounces now and then,

An anodyne powder,

Take spermaceti, red coral, and diaphoretic antimony un-
washed, $\mathfrak{aa}$. $\mathfrak{z}$ j. Pure opium, gr. ij. Make into a
fine powder for 4 doses, to be taken morning and even-
ing when the pain urges. These are for internal use.

An anodyne fofus,

Take of the flowers of henbane, melilot, wild poppies, and
elder, $\mathfrak{aa}$. pug. j. Boil in a close vessel with water
enough to yield $\mathfrak{lb}$ j. $\mathfrak{ss}$. of decoction when strained,
to which add, vinegar of elder and roses, $\mathfrak{aa}$. $\mathfrak{z}$ ij.
Rectified spirit of wine, $\mathfrak{z}$ iv.

An

For a CANCER.

An anodyne ointment.

Take vinegar of litharge, ℥j. Oil of henbane seeds, of white poppy seeds, of roses, by infusion, āā. ʒij. Make into an ointment, f. a. and at the end, add Pure opium, gr. vi.

The plasters here proper, are, Empl. de minio, or red lead, mercurial plaster, and the ointment of pompholyx.

A mild anodyne plaster in a scirrhus, that is to be cured neither by resolution, nor extirpation.

Take the pure expressed juice of leaves of henbane, garden poppies, water hemlock, āā. ℥iv. Boil over a gentle fire, to a due consistence, and towards the end add, White wax, ℥viij. Oil of roses by infusion, ℥j. Make into a plaster.

A mild saturnine, mercurial plaster.

Take sugar of lead, white lead, mercury and lead amalgamated, āā. ʒij. White wax, ℥iv. Oil of roses by infusion, ʒiij. Mix for a plaster.

For a Cancer.

APH. DVII. No. 1.

See the plaster at APH. 490. No. 4.

APH. DVII. No. 2.

A purge in a cancer not yet ulcerated.

Take resin of jalap, gr. vi. Diagridium, gr. vii. Diaphoretic antimony unwashed, gr. xxiv. M.

Another with mercury.

Take mercurius dulcis, gr. xv. Diagridium, gr. xij. Mix, and take once a week.

APH. DVII. No. 3.

The decoctions here proper are made of, Roots of burdock, china, fennel, parsley, sarsaparilla, and viper's-grass.

A mild aperient powder.

Take diaphoretic antimony unwashed, gr. viij. Spermaceti, ʒj. Mix for two doses, one of which to be taken morning and evening.

APH. DIX.

A mild saturnine anodyne fomentation.

Take red poppy water, rose water, elder flower water, āā. ℥ij. Sugar of lead, ʒj. Spirit of wine with theriaca, ʒij. M.
A mild

Of FEVERS in general.

A mild saturnine liniment.

Take vinegar of litharge, $\mathfrak{zvi}$. Oil of roses, $\mathfrak{ziv}$. Mix for a liniment.

For diseases of the Bones.

APH. DXXIX. No. 1.

An abstergent antiseptic decoction in a spina ventosa.

Take of green, heavy, guaiacum wood rasped, $\mathfrak{zxx}$. Salt of tartar, $\mathfrak{z\beta}$. Digest in $\mathfrak{lbvi}$. of water in a diploma 24 hours, and then boil for 2 hours, adding towards the end, Rectified spirit of wine, $\mathfrak{ziv}$. Let them just boil again, and then strain the liquor off. To this strained liquor, add $\mathfrak{lbij}$. of fresh water, and let it boil 4 hours. Of the first decoction let $\mathfrak{ziv}$. be taken 4 times a day upon an empty stomach. The other decoction is to be for common drink. Linen cloths dipped in this decoction may be used as a fomentation. Decoctions of juniper wood, saffrafras, box, oak, &c. may answer the same intention.

In the cure of Fevers in general.

APH. DXCIX.

For the aliments & drinks here necessary, See APH. 28. No. 1—4.

APH. DCIII.

A mucilaginous anodyne fomentation gently aperient.

Take of the seeds of quinces, No. vj. Rose and elder-flower-water, $\mathfrak{aa}$ $\mathfrak{ziii}$. Make an emulsion, f. a. To the pure liquor add, Rectified spirit of wine, tinct. of opium, $\mathfrak{zj}$.

APH. DCV. No. 2.

A subacid nitrous mixture in fevers from too much heat.

Take barley water, $\mathfrak{zxxv}$. Purified nitre, $\mathfrak{zj}$. Rhenish wine, $\mathfrak{zvi}$. Rob of currants and elder-berries, $\mathfrak{aa}$ $\mathfrak{zij}$. M. Dof. One or two ounces every quarter of an hour.

A similar powder.

Take crystals of tartar, $\mathfrak{zj}$. Purified nitre, $\mathfrak{z\beta}$. M. Dof. $\mathfrak{zj}$. in some ptisan every 3 hours.

APH. DCV. No. 10.

The emetics here proper are, Ipecacuanha in powder from 10 to 20 grains, or its wine from $\mathfrak{zj}$. to $\mathfrak{zij}$. Tartar emetic, from 2 to 5 gr.

APH.

Of the COLD FIT in FEVERS.

APH. DCX.

A cooling clyster to temperate the motion in fevers.

Take purified nitre, ʒij. Honey of roses, ʒj. Fresh whey, ʒxii.

APH. DCXI.

Medicines in febrile languors.

An aromatic mixture.

Take oxymel of squills, ʒij. Matthiolus's spir. vitæ, ʒij. Mint water, ʒiv. Cinnam. water, ʒj. M. Dos. ʒj. every hour.

A warm stimulating electuary.

Take confectio of alkermes, ʒj. Ginger preserved, ʒvj. Contrayerva and Virginian snakeroot, āā ʒj. Syr. of the 5 opening roots, q. s. M. Dos. ʒʒ. every 4 hours.
—Many such like formulæ may be contrived for the same intention.

APH. DCXIV.

The bitter cooling lactescent plants here recommended are,

Gum Succories,	Endive,	Dandelion,
Garden Succory,	Vipers-grass,	Goat's-beard,
Lesser hawk-weed,	Lettuces,	

In the Cold Fit in Fevers.

APH. DCXXV.

A drink proper in the cold fit.

Take barley-water, ʒxxx. Purified nitre, ʒij. Simple oxymel, ʒij. Clove-water, ʒij. M. Dose ʒij. every quarter of an hour warmed.

An emulsion in the same.

Take of the four greater, and lesser cold seeds, āā. ʒij. Water, q. s. to make ʒʒ. of emulsion, to which add, Fennel-water, ʒiv. Sal Prunel, ʒij. Syr. of the 5 opening roots, ʒij. Of violets, ʒʒ. Dose as the former.

Coffee, decoctions of saffrafras, and the saunders are here very serviceable, especially if a small quantity of the spices be added towards the end.

A Decoction.

Take white, yellow and red saunders-wood, āā. ʒj. Boil a quarter of an hour in 2 quarts of water, then add, Fennel

Of THIRST in FEVERS.

Fennel roots, $\mathfrak{z}$ iv. Sassafras chips, $\mathfrak{z}$ ij. Liquorice, $\mathfrak{z}$ ß. Boil them again one minute. Dos. $\mathfrak{z}$ ij. warm every two hours.

Of anxiety in fevers.

APH. DCXXXIV.

Emetics here proper are, Oxymel of squills, White vitriol, &c.

Purges, Take crystals of tartar, $\mathfrak{z}$ v. dissolved in warm whey.

OR, Crystals of tartar, $\mathfrak{z}$ ij. Sal prunel, gr. xij. Sal polychrestum, gr. xij. M. A very great variety of such lenient purges may be easily contrived in powders, draughts, and bolusses.

Sudorifics in fevers.

These are always Diluents and Aperients.

A sudorific decoction.

Take roots of smallage, burdock, and china, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ j. Roots of succory, grass, wild turnep, parsley, turnep, and butcher's-broom, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ ß. Sarsa, china, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ j. Roots of vipers-grass, $\mathfrak{z}$ ß. Leaves of sorrel, succory, endive, and dandelion, $\mathfrak{a}\mathfrak{a}$. M. j. Elder-flowers, $\mathfrak{z}$ ij. Smallage and parsley seeds bruised, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ j. Boil in water and strain off $\mathfrak{z}$ pints. Dos. $\mathfrak{z}$ ij. warm every $\frac{1}{4}$ of an hour.— A great variety of such kinds of forms may be contrived.

Diuretics.

These are one part of new milk to three of water.—Whey and skimmed milk, butter milk. Jellies of ripe garden-fruits dissolved in water, Salt of nitre, &c.

Absterfives.

Are the same with the preceding.

Of Thirst in Fevers.

APH. DCXL.

A very proper drink in fevers.

Take Barley water, $\mathfrak{z}$ xl. Jelly of currants, $\mathfrak{z}$ iv. Spirit of salt, enough to give it a grateful acidity. Cinnamon water, $\mathfrak{z}$ j. Mix for common drink.

APH. DCXLI.

A decoction in great thirst, and weakness.

Take fresh citrons, pick out their kernels, and spongy pith; cut them small and bruise them with their rinds. Infuse in barley water, $\mathfrak{z}$ xxxij. to which add, Syr. of mulberries,

Of a NAUSEA in FEVERS.

ries, ℥j. β. Rhenish wine, ℥vii. Keep them close covered in an earthen vessel for constant drink. Two ounces of toasted bread may be added.

Of a Nausea in Fevers.

A.P.H. DCXLIV.

1. A nausea from the first cause is cured by the drinks directed, A.P.H. 640. and 641.

— from the 2d cause by the means directed, A.P.H. 634.

— from the 5th cause by the following

Austere anodyne mixture.

Take marmalade of quinees, ℥iv. Syr. of lemons, ℥ij. Matthioli's aq. vitæ, ℥j. Citron-water, ℥vj. Tinct. of opium, gr. lx. M. Dose ℥j. till the nausea ceases. Or, Spirituous mint water, ℥j. every $\frac{1}{4}$ of an hour.

An anti-emetic draught.

Take juice of lemons, or citrons, ℥β. Rhenish wine, ℥j. being well mixed add Salt of wormwood, ℥ij. Let them be drunk while fermenting.

In almost all nauseae, that are free from inflammation, epithems, fomentations, cerates, and stomach-plasters are serviceable.

A stomachic plaster in a nausea from an inordinate motion of the nervous fluid.

Take the powder aromaticus rosaceus, diagalangia, and diarthodon abbatis, aa. ℥j. Sew them in a linen cloth, and apply to the pit of the stomach.

For weakness in fevers.

A.P.H. DCLXVII.

Take beef, veal, mutton, and chicken. Boil in water and season with a little salt and citron juice. Milk, and the decoctions of bread recommended at A.P.H. 28. No. 1. are here also proper.

In Intermitting Fevers.

A.P.H. DCCLVIII.

All salts of plants prepared after Tachenius's method are here proper, particularly, salt of wormwood, of carduus benedictus, and bean-stalks. Nitre, nitre antimoniated, Diaphoretic antimony unwashed, &c. — All the aromatic plants enumerated, A.P.H. 75. No. 5. A.P.H. 54. No. 4. especially under the title of Resolvents.

IN INTERMITTING FEVERS.

APH. DCCLIX.

The *vomits* here proper are, tartar emetic, emetic wine, ipecacuanha, &c.

The *purges*, are the pulvis cornachini, $\mathfrak{z}$ ij. The greater pil. cochiae, $\mathfrak{z}$ ij. Purg. syr. of roses, $\mathfrak{z}$ ß. Elder-flower-water, $\mathfrak{z}$ ij. for a dose.

APH. DCCLXI.

An antifebrile fudorific, that seldom fails.

Take sal polychrest, $\mathfrak{z}$ ij. Syr. of the 5 opening roots, $\mathfrak{z}$ ij. Pure opium, gr. ij. Simple carduus, wormwood, rue, marjoram, and mint waters, aa. $\mathfrak{z}$ j. Mix. Dof. One spoonful every quarter of an hour, with four ounces of the following decoction after every dose.

The decoction.

Take roots of master-wort, $\mathfrak{z}$ vj. Sassafras wood, red Saunders, aa. $\mathfrak{z}$ ij. Leaves of golden-rod, M. ij. Lesser centaury flowers, $\mathfrak{z}$ ß. Seeds of Cretian carrots bruised, $\mathfrak{z}$ vj. Infuse in a close vessel two hours in very hot water, then boil it a little, and strain off a quart of the decoction for the above use.

APH. DCCLXIII.

See APH. 634. & 640. for the drinks & medicines here proper.

APH. DCCLXVII.

In this state the Peruvian bark in such form as the patient likes is the only remedy.

APH. DCCLXVIII.

A warm liniment to anoint the spina dorsi.

Take oil of scorpions, castor, juniper-berries, camphire from the roots of the cinnamon-tree, laurel-berries, turpentine, and balsam of sulphur terebinthinated, aa. $\mathfrak{z}$ ß. M.

An astringent decoction.

Take broad-leaved plantane, $\mathfrak{z}$ x. Fresh tormentil roots, $\mathfrak{z}$ ij. Boil in water, q. s. to a quart. Dof. $\mathfrak{z}$ ij. every 3 hours.

In a watery quinsy.

APH. DCCXCVI.

The Resolvents here necessary are enumerated, APH. 54. No. 4. To diminish the Lymph, See APH. 201.

In an INFLAMMATORY QUINSEY.

In a scirrhus quinsey.

APH. DCCXCVI.

Take oil of tartar per deliquium, drop it upon lint fitted to a quill, and apply it to the part, which it gradually consumes.—This may be sooner done by quick-lime, but the application of it is more dangerous.

In an Inflammatory Quinsey.

APH. DCCCIX. No. 2.

Purges here proper are, Diagrydium, gr. xvij. Dissolve in water, $\mathfrak{z}$ β . to which add, Syr. of fenna, $\mathfrak{z}$ j. β . Mix for a draught.

A Clyster.

Take fenna, $\mathfrak{z}$ j. boil in half pint of water, to which add, Nitre, $\mathfrak{z}$ j. Syr. of fenna, $\mathfrak{z}$ j. Mix.

APH. DCCCIX. No. 5.

An emollient, resolvent vapor.

Take vinegar of elder, roses, and marigolds, each $\mathfrak{z}$ j. Elder-flower-water, $\mathfrak{z}$ vi. M. Let the warm vapour of this be received into the throat by means of a funnel.

APH. DCCCX.

A relaxing emollient cataplasme.

Take the herb duck's-meat, $\mathfrak{z}$ vj. Leaves of lillies, $\mathfrak{z}$ v. Garden poppies, $\mathfrak{z}$ viij. Marsh-mallows, $\mathfrak{z}$ vj. Flowers of elder, and melilot, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ iv. Boil in q. s. of water, and towards the end add Swallow's-nests, No. 2. Linseed-meal, q. s. Oil of white lillies, $\mathfrak{z}$ iij. M. The decoction will serve for a fots.

APH. DCCCXI.

An emollient, attenuating, nitrous gargle.

Take of the preceding decoction, $\mathfrak{z}$ xij. Elder vinegar, $\mathfrak{z}$ ij. Syr. of marsh-mallows, $\mathfrak{z}$ ii. Nitre, $\mathfrak{z}$ ii. M. OR,

Take the best figs, No. xxij. Marsh-mallow leaves, $\mathfrak{z}$ ij. Boil in water q. s. a good while, and express $\mathfrak{z}$ xxx. for use.

APH. DCCCXIII.

A nutritive clyster.

Take strong broth, $\mathfrak{z}$ x. Nitre, $\mathfrak{z}$ β . Spirit of Salt, gr. vj. M. To be given every eight hours, the intestines being first cleansed with a purging clyster.

In a TRUE PERIPNEUMONY.

In a true peripneumony.

APH. DCCCL.

A soft resolvent drink.

Take barley-water, $\mathfrak{z}$ xl. Nitre, $\mathfrak{z}$ ij. Oxymel, $\mathfrak{z}$ iv. M.
Dof. $\mathfrak{z}$ ij. warm every quarter of an hour.

APH. DCCCLI.

An emollient decoction to promote expectoration.

Take leaves of pellitory, agrimony, and dandelion, $\mathfrak{a}\mathfrak{a}$. M. j.
Seeds of white poppies and fennel, bruised, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ j.
Liquorice, $\mathfrak{z}$ j. $\mathfrak{ss}$. Boil, and make 50 ounces of decoction. Dof. $\mathfrak{z}$ ij. warm, every quarter of an hour.

APH. DCCCLIII.

An aperient, diuretic apozem.

Take grafs roots, butcher's broom, parsley, and fennel, $\mathfrak{a}\mathfrak{a}$.
 $\mathfrak{z}$ ij. Masterwort, $\mathfrak{z}$ ij. Burdock and parsley seeds
bruised, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ j. Boil in 40 ounces of water, and strain
for use. Dof. $\mathfrak{z}$ ij. hot every quarter of an hour.

APH. DCCCLV. No. 2.

The diet here proper should consist of the pot-herbs, pulse,
and the ripe garden-fruits enumerated at APH. 35. No. 1.

APH. DCCCLV. No. 3.

Such are the Vapours at APH. 809. No. 5.

APH. DCCCLV. No. 4.

An attenuating mixture to excite a gentle cough.

Take vinegar of squills, $\mathfrak{z}$ vj. Oxymel of squills, $\mathfrak{z}$ ij. Sal
polychrest, $\mathfrak{z}$ j. Barley-water, $\mathfrak{z}$ vij. Hyssop-water,
 $\mathfrak{z}$ iv. M. Dof. $\mathfrak{z}$ j. every half hour. OR,

Take coffee one pint, honey, $\mathfrak{z}$ j. Elder vinegar, $\mathfrak{z}$ ij. M.
Let the patient drink of it warm as much as he likes,

APH. DCCCLVIII.

Aperient deterfives in an ulcer of the lungs.

Leaves of maidenhair,

Leaves of spleenwort,

_____ agrimony,

_____ ground-pine,

_____ betony,

_____ ground-ivy,

_____ germander,

_____ hyssop,

_____ borage,

_____ lettuce,

_____ bugloss,

_____ colts-foot, &c.

In old people, and those of a cold habit, the warmer plants
are best, such as the germander, ground-ivy, &c.

In

IN A TRUE PERIPNEUMONY.

In young people, and those of warm habits, the cooler plants are most beneficial, as the maidenhairs, borage, &c.

An aperient detergent decoction.

Take fresh leaves of agrimony, golden-rod, betony, and garden valerian, āā. M. j. White horehound, $\frac{1}{4}$ of a handful. The 5 aperient roots, āā. 3j. Flowers of the lesser centaury, agrimony, and St. John's wort āā. M. j. Boil to 4 pints. Doſ. 3ij. every two hours in the day time.

Aperient detergent pills.

Take of the best myrrh, 3ij. Grind it well in a glaſs mortar with 9j. of the yolk of egg, then add choiſe frankincenſe powdered, 9ij. Make into pills; each weighing two grains. Doſ. 1 or 2 every 2 hours, with a draught of the above decoction.

An aperient detergent powder.

Take of beſt myrrh, 3ij. Spermaceti, 3j. Mix and make into a powder, to be divided into twelve equal parts, one of which may be taken morning and evening with the ſame decoction.

An electuary for the ſame intention.

Take of myrrh and olibanum, āā. 3j. Virgin honey, 3ij. Mix. Doſ. 3j. every hour.

Opiates.

Theſe are the Pil. de cynogloſſo, de ſtyrace, diacodium, and opium itſelf.

An emollient vapour.

Take leaves of mallows, marſh-mallows, mercury, and pelitory of the wall, āā. M. ij. Linſeed-meal, 3ij. Boil in water, q. s. and draw in the ſteam with the air.

APH. DCCCLIX.

An aperient detergent decoction.

Take roots of burdock, china, and ſarſa, āā. 3ij. Boil half an hour in 3 pints of water, then put in ſaffraſ chips, 3ij. Boil again a little, and to the liquor ſtrained add, Syr. of the 5 opening roots, 3ij. Doſ. 3ij. every two hours.

An emollient aperient mixture.

Take the expreſſed juice of chervil, and new milk, āā. 3iv. Syr. of hyſſop, 3j. M. Doſ. 3j. every two hours.

In a BASTARD PERIPNEUMONY.

APH. DCCCLXI.

A more aperient and detergent decoction when the matter verges to the liver, after suppuration.

Take the greater sope-wort, M. ij. Fresh endive, M. iv. Leaves of wild succory, M. iij. Boil in a sufficient quantity of water, and strain off 3 pints. Dof. $\mathfrak{z}$ ij. every two hours.

APH. DCCCLXVI.

Vapour.

That given at APH. 858. is a very proper one.

An aperient resolving mixture.

Take simple oxymel, $\mathfrak{z}$ iij. Syr. of 5 opening roots, $\mathfrak{z}$ ij. Decoction of ground-ivy, $\mathfrak{z}$ x. Pure nitre, $\mathfrak{z}$ j. Dof. $\mathfrak{z}$ j. every hour.

A mild resolving antifebrile powder, when the spitting is suppressed.

Take pure laudanum, gr. ij. Flour of brimstone, spermaceti, and diaphoretic antimony unwashed, $\mathfrak{aa}$. $\mathfrak{z}$ j. Mix, and divide into 12 doses; one of which is to be taken every 3 hours, with $\mathfrak{z}$ j. of the preceding mixture. OR, Take flour of brimstone, $\mathfrak{z}$ ij. Oliban. $\mathfrak{z}$ j. Spermaceti, $\mathfrak{z}$ β . Diaphoretic antimony unwashed, $\mathfrak{z}$ j. Mix, and make a powder to be divided into 12 doses. Take one every hour, with an ounce of the above mixture.

A linctus, when the spitting is suppressed.

Take oil of sweet almonds, $\mathfrak{z}$ j. β . Syr. of violets, virgin honey, the yolk of a new laid egg, $\mathfrak{aa}$. $\mathfrak{z}$ β . Mix well together. Dof. $\mathfrak{z}$ β . every hour, till the spitting returns.

In a bastard peripneumony.

APH. DCCCLXXIII. No. 2.

A Clyster.

Take honey, $\mathfrak{z}$ iij. Nitre, $\mathfrak{z}$ j. Yolk of one egg, barley-water, $\mathfrak{z}$ viij. Mix f. a. to be injected every day, till the lungs are relieved.

APH. DCCCLXXIII. No. 4.

A diluent, abstergent, and gentle aperient decoction.

Take roots of fennel, $\mathfrak{z}$ ij. and grass, $\mathfrak{z}$ iv. Leaves of pel-litory of the wall, agrimony, $\mathfrak{aa}$ M. j. β . White poppy-seeds bruised, $\mathfrak{z}$ j. Liquorice, $\mathfrak{z}$ j. β . Boil $\frac{1}{2}$ of an hour in water, q. s. and strain off $\mathfrak{lb}$ j. β . Dof. $\mathfrak{z}$ ij. every two hours.

APH.

In a PLEURISY.

APH. DCCCLXXXVII.

See the decoction at APH. 873. No. 4. and also that at APH. 861. and 859.

APH. DCCCXC. No. 2.

An anodyne resolvent fomentation.

Take leaves of mallows, marsh-mallows, and pellitory of the wall, āā. M. ij. Leaves of garden poppies, henbane, āā. M. j. Flowers of elder, chamomile, and melilot, āā. ℥ iij. Boil in q. s. of new milk for a fomentation.

A resolvent, repellent liniment for the sides.

Take Sugar of lead, ℥ iv. Vinegar, ℥ vj. Oil of roses by infusion, ℥ j. M.

APH. DCCCXC. No. 3.

A relaxing, resolving, and mild aperient decoction.

Take leaves of coltsfoot, and mallows, āā. M. ij. Flowers of wild-poppies and marsh-mallows, āā. M. ℔. Parsley, and farsa roots, āā. ℥ iij. Seeds of lattuce, ladies-thistle, and flax, āā. ℥ j. Boil in water, and strain off ℥ pints. Dof. ℥ ij. every hour.

Emulsions of the greater and lesser cold seeds, to which may be added white poppy-seeds, are here a proper drink; a drachm, or ℥ j. ℔. of nitre may be dissolved in every pint of emulsion, and sweetened with ℥ j. of syr. of maidenhair. Dof. ℥ j. every quarter of an hour.

A julep of the same kind.

Take wild poppy-flower-water, elder flower-water, āā. ℥ viij. Borrage flower-water, ℥ v. Crabs claws prepared, ℥ ij. Sal. prunel, ℥ j. Syr of red and white poppies, āā. ℥ j. M. Dof. ℥ ij. every half hour.

APH. DCCCCIII.

An antilseptic, aperient decoction.

Take leaves of water-germandery, jack by the hedge, white horehound, āā. ℥ ij. Boil in a quart of water, and to the strained liquor add, Oxymel of squills, ℥ viij. Nitre, ℥ iij. Vinegar of theriac, ℥ j. M. Dof. ℥ j. hot every half hour. — Eight ounces of Oxymel of squills is certainly too much.

In INFLAMMATIONS of the LIVER, &c.

In Inflammations of the Liver, and the several kinds of the Jaundice.

APH. DCCCCXIII.

For the Resolvents, See APH. 54. No. 4. APH. 75. No. 5. APH. 88. No. 5. 6. and APH. 135.

APH. DCCCCXIV.

For the remedies here proper, See APH. 54. No. 4.

APH. 88. No. 5. 6.

APH. DCCCCXVII.

Styptics here necessary are,

1. A mild Styptic.

Take rock-alum, ʒj. Plantain-water, ʒj. M. Tents dipped in this are to be thrust up the noitrils.

2. A stronger Styptic.

Take sugar of lead, ʒj. Rose-water, ʒj. M. To be used as the former.

3. A very strong Styptic.

Take common vitriol, ʒj. Rose-water, ʒvi. M. Use as the former.

APH. DCCCCXXVIII.

See APH. 54. No. 4.

APH. DCCCCXXX.

The remedies here proper are,

The several sorts of sorrels,	Wild and garden succories,
Herb mercury,	Dandelion,
Endive,	Fumitory,
Sharp-pointed-dock,	Purslane, &c.

An antiphlogistic, aperient decoction.

Take tamarinds, ʒj. Prunes, ʒij. Gooseberries and currants, aa. ʒij. Flowers of dandelion, wild succory, aa. ʒj. Roots of vipers-grass, ʒiv. Boil ½ of an hour in a quart of water, and to the strained liquor add. Sal polychrest, ʒj. Syr. of succory with rhubarb, ʒj. B. Dof. ʒj. every half hour, till it purges.

Syr. of succory with rhubarb, ʒj. B. Salt pruned, ʒj. Succory and fumitory waters, aa. ʒij. will answer the same intention. Dof. a spoonful every half hour till it purges.

APH.

In INFLAMMATIONS of the STOMACH, &c.

A.P.H. DCCCCXLIV.

A cooling, antiseptic draught, &c.

Take ripe mulberries, red-currants, elder-berries, cherries, and barberries, $\text{aa. } \mathfrak{z}\text{iv.}$ Bruise them, and boil their expressed juices; to an ounce of which add, the yolk of one egg, juice of citrons, $\mathfrak{z}\text{j.}$ Rhenish wine, $\mathfrak{z}\text{j.}$ Bread toasted, and grated small, q. s. Sugar, enough to sweeten it. Mix for a draught. This may be had in the summer season; in the winter, the following may be used.

Take the Robs of the preceding fruits, $\mathfrak{z}\text{j.}$ Nutmeg-elaeo-faccharum, gr. v. Citron water, $\mathfrak{z}\text{ij.}$ Rhenish wine, $\mathfrak{z}\text{j.}$ Yolk of one egg. Sugar, toasted bread, aa. q. s. M.

In Inflammations of the Stomach.

A.P.H. DCCCCCLIV.

A lenient drink.

Take fresh leaves of wood-forrel, $\mathfrak{z}\text{ij.}$ Mallows, $\text{M. j. } \mathfrak{B.}$ Whole oatmeal, $\mathfrak{z}\text{j.}$ Boil in 12 oz. of whey, and add the yolks of two eggs, jelly of currants, $\mathfrak{z}\text{j. M.}$

An emollient clyster.

Take fresh leaves of endive, succory, fumitory, mallows, and marsh-mallows, aa. M. j. Boil in a sufficient quantity of whey, to express $\mathfrak{z}\text{x.}$ for a clyster to be given twice or thrice a day.

In inflammations of the intestines.

A.P.H. DCCCCCLXVI.

The diet in this state, should be such as does not produce hard, acrid faeces, as,

Take roots of vipers-grass, goats-beard, skirrets, parsley, and succory, $\text{aa. } \mathfrak{z}\text{ij.}$ Boil in a quart of broth; to which add the yolks of two eggs and a little salt.

A balsamic, detergent decoction.

Take roots of garden valerian, $\mathfrak{z}\text{ij.}$ Leaves of lovage, M. ij. Flowers of St. John's wort, $\text{M. } \mathfrak{B.}$ of agrimony, $\mathfrak{z}\text{ij.}$ Boil in water and strain off 2 quarts. Dose $\mathfrak{z}\text{ij.}$ every hour. The same decoction will also do for a clyster.

In a Thrush.

A.P.H. DCCCCXC. No. 1.

An emollient, lenient drink.

Take almonds blanched, $\mathfrak{z}\text{ij.}$ Pistachio nuts, $\mathfrak{z}\text{j.}$ The 4 greater and lesser cold seeds, $\text{aa. } \mathfrak{z}\text{ij.}$ Oatmeal, $\mathfrak{z}\text{ij.}$
Boil

In a THRUSH.

Boil one hour in a quart of water, then add liquorice-root scraped, $\mathfrak{z}$ j. Boil again a little, and strain off the liquor for use. The same may be used for a gargle.

A more aperient and abstergent decoction.

Take small-leaved red-carrot roots, skerrit-roots, china root, farfa, and turnips, $\mathfrak{aa}$. $\mathfrak{z}$ iv. Barley. $\mathfrak{z}$ j. Bruise and boil in a sufficient quantity of water, to express $\mathfrak{z}$ xxx. to which add Syr. of marsh-mallows, $\mathfrak{z}$ j. Use as before.

An abstergent, diluent, resolvent juice.

Take rasped turnips, q. s. express their juice, then boil and clarify. To every pound of which, add the yolks of 2 eggs, Syr. of violets, $\mathfrak{z}$ β . M. Dof. $\mathfrak{z}$ β . every hour. For the proper aliments, See APH. 35. No. 1. 2.

APH. DCCCCXC. No. 2.

An emollient, detergent decoction.

Take leaves of mallows, bears-breech, marsh-mallows, pel-litory of the wall, mullein, mercury, and ladies-mantle, $\mathfrak{aa}$. $\mathfrak{z}$ ij. Marsh-mallow roots, $\mathfrak{z}$ j. Round turnips, $\mathfrak{z}$ x. Boil in a sufficient quantity of water, to express $\mathfrak{z}$ xxxvj. to which add the yolks of 4 eggs, honey of roses, $\mathfrak{z}$ ij. Use it constantly as a lotion and gargle.

The residuum may be used for a cataplasm to the fauces, and the decoction for a clyster.

APH. DCCCCXC. No. 3.

An emollient, anodyne, roborating mixture.

Take Syr. of white-poppies, $\mathfrak{z}$ ij. Fresh cream, $\mathfrak{z}$ ij. Yolks of two eggs, rose-water, $\mathfrak{z}$ ij. M. A little of this is constantly to be held in the mouth. Jelly of hartshorn, or of meat made thick, and cut into thin slices, is likewise of service, and heals the excoriated parts.

A resolvent, roborant decoction when the thrush begins to separate.

Take a decoction of the leaves of agrimony, $\mathfrak{z}$ vij. Honey of roses, $\mathfrak{z}$ j. M.

APH. DCCCCXC. No. 4.

An astringent, roborant decoction, when the thrush is separated.

Take roots of sharp-pointed dock, $\mathfrak{z}$ j. Peruvian bark, $\mathfrak{z}$ vj. Tamarisk bark, $\mathfrak{z}$ vj. Leaves of agrimony, Maj. Boil in a pint and half of water, and to the strained liquor add,

In the APOPLEXY.

add, Syrup of kermes, $\mathfrak{z}$ j. Dos. $\mathfrak{z}$ β . every hour.
This strengthens the relaxed vessels of the intestines.

APH. DCCCCXC. No. 5.

A purging and strengthening draught.

Take rhubarb, $\mathfrak{z}$ j. β . Yellow myrobalans freed from their kernels, $\mathfrak{z}$ j. β . Boil in a sufficient quantity of water to express $\mathfrak{z}$ iij. To which add, Syr. of Succory with rhubarb, $\mathfrak{z}$ xij. M.

In a Nephritis.

APH. DCCCCXCVII. No. 2.

An antiphlogistic, lenient and aperient decoction.

Take fresh leaves of chervil, brooklime, and pellitory of the wall, $\mathfrak{a}\mathfrak{a}$. M. ij. Roots of wood-sorrel, succory, and burdock, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ ij. Red chiches, $\mathfrak{z}$ j. β . Seeds of white poppies, and ladies thistle bruised, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ vi. Boil half an hour in water, q. s. to leave $\mathfrak{f}\mathfrak{b}$ iij. Dos. $\mathfrak{z}$ ij. every quarter of an hour. OR,

Take grass roots, $\mathfrak{z}$ vj. Melon-seeds bruised, $\mathfrak{z}$ j. β . Liquorice, $\mathfrak{z}$ j. Boil in water, q. s. to $\mathfrak{f}\mathfrak{b}$ iij. Dos. $\mathfrak{z}$ ij. every quarter of an hour.

APH. M.

The remedies here proper are,

Agrimony,	Marsh-mallow,	Bugloss,
Ladies-mantle,	Brook-lime,	Chervil,
Liquorice,	Fennel,	Pellitory of the wall,
Fernelius's Syr. of marsh-mallows,	Syr. of white-poppies,	Syr. of red-poppies, &c.

In the Apoplexy.

APH. MXXV.

Gargarisms, and Masticatories here proper.

Take roots of master-wort, pellitory of Spain, galangals, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ j. Fresh leaves of wild marjoram, rue, and thyme, $\mathfrak{a}\mathfrak{a}$. M. j. Flowers of lavender, feverfew, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ j. Winters-bark, $\mathfrak{z}$ vj. Boil in $\mathfrak{f}\mathfrak{b}$ iij. of water in a close vessel, and to the strained liquor add, Spirit of sal ammoniac, $\mathfrak{z}$ iij.

A Masticatory.

Take mastic, white wax, ginger, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ j. Mix, and make into lozenges. From these Apophlegmatisms may be prepared.

In the APOPLEXY.

APH. MXXVI.

Vomits.

Take emetic wine, $\mathfrak{z}$ ii, β . Oxy mel of squills, $\mathfrak{z}$ j. M.

A Purge.

Take diagridium, resin of jalap, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$. β . Spirit of wine rectified, $\mathfrak{z}$ ij. To these, well ground and dissolved, add, purging Syr, of roses with senna, $\mathfrak{z}$ vj. M.

APH. MXXVIII.

A stimulant for the nostrils.

Take tincture of castor, spirit of sal ammoniac, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ ij. M.

A warm balsam in a pituitous apoplexy.

Take the essential oils of tansey, lavender, rosemary, rue, and wormwood, $\mathfrak{a}\mathfrak{a}$. gut. iv. Tincture of castor, $\mathfrak{z}$ j, Nerve ointment, $\mathfrak{z}$ j. Sal. volatil. oleos. $\mathfrak{z}$ j. M.

For a Suffitus to be rubbed on the temples, and held under the nose.

An acrid clyster.

Take pulp of coloquintida, $\mathfrak{z}$ β . Tobacco, $\mathfrak{z}$ j. β . Boil in $\mathfrak{z}$ x. of water, and add Sal gemm, $\mathfrak{z}$ ij. Mix for a clyster.

APH. MXXX. No. 2.

Antiphlogistic purges, chiefly of senna and tamarinds are here proper.

APH. MXXX. No. 3.

Here the cooling, diluents and attenuants enumerated at

APH. 954. and 966. are proper.

In the Palsy.

APH. MLXVIII.

For the attenuants and dissipants here recommended,

See APH. 75. No. 5. APH. 54. No. 4.

APH. MLXIX.

An aromatic powder for a fumigation.

Take mastic, olibanum, and amber, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ β . M. A drachm of this to be sprinkled on live coals, the fume of which is to be caught on dry flannel, and instantly rubbed on the parts.

A penetrating nervous mixture.

Take compound spirit of lavender, $\mathfrak{z}$ ij. Spirit of sal armoniac, $\mathfrak{z}$ ij. Tinct. of castor, $\mathfrak{z}$ iv. Lavender water, $\mathfrak{z}$ vi. M. The parts affected are to be rubbed with this.

A stimu-

In the Scurvy.

A stimulating aromatic plaster.

Take cummin and melilot plasters, strained galbanum, aa. ʒj.
Oil of castor, ʒß. Mix for a plaster to be applied
after the parts have been well rubbed.

In Madness.

APH. MCXXVI.

A strengthening cardiac electuary.

Take peruvian bark, ʒij. Winters bark, ʒij. Conf. of rose-
mary, ʒj. Syr. of cherries, q. s. M. Dos. ʒß every
three hours.

OR,

Take preserved ginger, ʒij. Preserved orange peel, ʒij.
Nutmeg, ʒiv. Fernellius's Syr. of mugwort, q. s. M.
Dos. ʒj. 4 times a day.

A cardiac, strengthening wine.

Take peruvian bark, winters bark, citron and orange peels,
china bark, and cinnamon, aa ʒj. Tops of wild thyme,
garden thyme, Syrian mastic, aa ʒß Flowers of Ara-
bian lavender, common lavender, tansey, aa ʒj. Aloes
and saffrafrs woods, aa ʒvj. infuse in 3 quarts of Spa-
nish wine. Dos. ʒij. 4 times a day.

In canine madness.

APH. MCXLIII. No. 6.

All acidulated drinks are proper, and pickled cabbages, and
such like for diet.

APH. MCXLIV.

A Clyster.

Take nitre ʒij. elder-vinegar, ʒj. Honey of roses, ʒj. Barley
water, ʒx. M.

In the Scurvy.

APH. MCLX. No. 1.

Purges.

Take vitriolated tartar not acid, crystals of tartar, sal poly-
chrest, aa. ʒß. mix and make a powder, to be taken
in the morning in a little whey, drinking after it 12 oz.
of the same.

A Draught.

Take sal polychrest, ʒij. Pil. cochine, maj. ʒj. Purging Syr.
of roses with Senna ʒvj. Succory water, ʒij. mix.

APH.

In the SCURVY.

APH. MCLX. No. 2.

Attenuants and Digerents.

- Helmont's tincture of salt of tartar. Dof. ʒj. in wine, ʒij.
Harvey's tinct. of the fame. Dof. ʒiv. in wine, ʒij.
Lewis's tinct. of steel. Dof. ʒj. in wine, ʒj.
Vitriolated tartar, cryftals and cream of tartar, vitriol of iron,
fal polychrest. Dofe of each, ʒß.
Tachenius's vegetable falts, Dof. ʒj. in wine, ʒij.
Elixir proprietatis made with fpirit of vinegar, Dof. ʒij.
_____ with falt of tartar, Dof. ʒij.
_____ with aromatic waters, Dof. ʒij.
Volatile oily falts aromatized, Dof. ʒj. Venice foap, fimple
oxymiel, &c. Conferves of garden and wood-forrel. Sevil
and China oranges, citrons, lemons, and pomegranates.

APH. MCLX. No. 3.

Mild fpecific antifeorbutics.

- | | | |
|----------------|-----------------|------------------------|
| Southernwood, | Wormwood, | Sorrels of all forts, |
| Agrimony, | The pimpernels, | Mugwort, |
| Burdock, | Brook-lime, | Heads of red cabbage, |
| Germander, | Ground-pine, | Coleworts, |
| Beets, | Endive, | Docks, |
| Marjoram, | Baum, | Mint, |
| Garden and | Rhubarb, | Sage, and nettles, &c. |
| water-creffes, | Scordium, | Veronica, |

Garden fruits.

- | | | |
|---------------|-----------------------------|------------------|
| Barberries, | Ripe cherries of all forts, | Strawberries, |
| Gooseberries, | Mulberries, | Pippins, |
| Apricots, | Peaches, | Raspberries, &c. |

APH. MCLXI.

Acrid antifeorbutics.

- | | | | |
|-----------------|---------------|----------------|-----------------|
| Indian cresses, | Garlick, | Wake-robin, | Wild-radish, |
| Wormwood, | Onions, | Scurvy-grafs, | Hedge-mustard, |
| Gentian, | Hedge-hyflop, | Leeks, | Horfe-radish, |
| Garden-radish, | Mustard, | Water-trefoil, | Elecampane, &c. |

An antifeorbutic juice.

- Take horfe-radish rafped, ʒiv. Scurvy grafs, money-wort,
and nettles, aa M. iv. Exprefs the juice and fweeten.
Dof. ʒij. 4 or 6 times a day.

An antifeorbutic ale.

- Take frefh leaves of fcurvy-grafs, rochet, hedge-mustard,
water-trefoil, aa M. j. Seeds of garden-cresses, and
radifhes

In a PHTHISIS PULMONALIS.

radishes bruised, $\text{aa } \mathfrak{z}ij$. Flowers of lesser centaury, $\mathfrak{z}j$. Horfe-radish-roots, sliced, $\mathfrak{z}v$. Put into half a barrel of new ale while it is working. When fit, use for common drink.

A medicated wine.

Take roots of arum fresh gathered, $\mathfrak{z}\beta$ Horfe-radish, $\mathfrak{z}j$. Leaves of scurvy-grass, and water-trefoil, $\text{aa } M. j$. Mustard-seed, $\mathfrak{z}ij$. Rhenish wine, $\mathfrak{h}vj$. M.

APH. MCLXII.

Mild astringent antiscorbutics.

Capers, Broom-flowers, Ash-buds, Docks of all sorts, Hops, Polypody of the oak, Rhubarb, Tamarisk-bark.

Cooling antiscorbutics.

Oranges, citrons, lemons, pomegranates, and all garden fruits that are sweet and four. Whey, butter-milk, &c.

APH. MCLXIII.

Gargles.

In warm habits.

Take juice of lemons, honey of roses, $\text{aa } \mathfrak{z}ij$. Dulcified spirit of salt, $\mathfrak{z}\beta$. Rue water, $\mathfrak{z}ij$. M. OR,
Take spirit of sea-salt, $\mathfrak{z}ij$. Sage water, $\mathfrak{z}viii$. M.

In cold habits.

Take treacle water, Spirit of scurvy-grass, $\text{aa } \mathfrak{z}j$. Honey of rosemary, $\mathfrak{z}ij$. M.

APH. MCLXIV.

An antiseptic decoction, in an acrid scurvy.

Take fumitory, sorrel, brook-lime, and water-trefoil, $\text{aa } M. j$. Whey and butter-milk, $\text{aa } \mathfrak{h}ij$. Boil together. OR,

An antiscorbutic whey.

Take wood-sorrel, $M. j\beta$. Betony and chervil, $\text{aa } M. \beta$. Tamarinds, $\mathfrak{z}j\beta$. When cut small infuse in 3 pints of whey almost boiling hot for an hour, then strain off the liquor, and add Syr. of citron juice, raspberries, and violets, $\text{aa } \mathfrak{z}j$. of thi sand the former, $\mathfrak{z}j$. may be drank every half hour in the day time.

In a phthisis pulmonalis.

APH. MCC. No. 2.

A styptic thickening electuary.

Take conserve of red roses, $\mathfrak{z}iii$. Armenian bole levigated, $\mathfrak{z}ij$. Syr. of myrtles, q. s. mix. Dof. $\mathfrak{z}j$. every 2 hours.

A cooling

In a PHTHISIS PULMONALIS.

A cooling styptic conserve.

Take the tender leaves of plantane, $\mathfrak{z}\text{ij}$. Flowers of red poppies, $\mathfrak{z}\text{j}$. β . Plantane seeds, $\mathfrak{z}\text{j}$. Make a conserve, s. a. with Sugar, q. s. Dos. $\mathfrak{z}\text{j}$. every 2 hours.

A cooling, antiseptic decoction.

Take leaves of sorrel, $\mathcal{M}$. ij . Boil in $\mathfrak{lb}\text{j}$. of whey, and express the juice. Dos. $\mathfrak{z}\text{j}$. every hour in the day.

The mildest Balsams.

A mild balsamic oil.

Take sweet almonds, cocoa-nuts, pistachio-nuts, and white poppy seeds, $\mathfrak{aa}$. $\mathfrak{z}\text{iv}$. Being well bruised, express their oil, s. a. Dos. $\mathfrak{z}\text{j}$. every 2 or 3 hours.

Mild balsamic pills.

Take pure turpentine, $\mathfrak{z}\beta$. Liquorice powdered, q. s. Mix and make into pills each of 4 grains. Dos. one to be taken every 4 hours. OR,

Take pure turpentine, $\mathfrak{z}\beta$. Gum tragacanth powdered, $\mathfrak{z}\text{v}$. Fine Starch, q. s. Make into pills as before. Dos. the same.

Lucatellus's balsam may be taken, $\mathfrak{z}\beta$. thrice a day when the stomach is empty, drinking after every dose $\mathfrak{z}\text{j}$. of the following balsamic mead.

Take fresh flowers of betony, St. John's-wort, and cowslips, $\mathfrak{aa}$. pug. j . Infuse for half an hour in $\mathfrak{lb}\text{j}$. β . of hot water; to the strained liquor, add, Marcellies honey, $\mathfrak{z}\text{ij}$. β .

APH. MCC. No. 3.

Take pure water, $\mathfrak{lb}\text{ij}$. New milk, $\mathfrak{lb}\text{j}$. $\mathcal{M}$. Use for common drink.

Take new milk warm from the cow, $\mathfrak{lb}\mathfrak{ss}$. Bisket, $\mathfrak{z}\text{j}$. Sugar, $\mathfrak{z}\text{ij}$. Mix as they are, and eat it 4 times a day, using no other food.

An antacid powder.

Take crabs eyes prepared, $\mathfrak{z}\text{ij}$. Venice soap, $\mathfrak{z}\beta$. Saccharum perlatum, $\mathfrak{z}\text{ij}$. Mix and make a powder to be divided into 12 doses; one of which is to be taken before the milk and bisket.

APH. MCCIX.

An aperient acid mixture.

Take simple oxymel, $\mathfrak{z}\text{iv}$. vitriolated tartar, $\mathfrak{z}\text{j}$. Syr. of the five aperient roots, $\mathfrak{z}\text{ij}$. Wormwood, carduus, and hyssop

IN a PHTHISIS PULMONALIS.

hyssop simple waters, $\text{āā } \text{℥iv.}$ M. Dos. ℥ij. every two hours.

An anti-phthific decoction.

Take the 3 saunders wood, $\text{āā } \text{℥j.}$ Sassafras, $\text{℥j. } \beta.$ China and sarfa roots $\text{āā } \text{℥ij.}$ Flowers of lesser centaury, $\text{℥ } \beta.$ Boil half an hour in water, q. s. in a close vessel, and then add liquorice root sliced, ℥j. Let them just boil up again, and strain off four ℔ of the liquor for use. Dos. ℥ij. every two hours.

Balsamic pills to prevent the corruption of the blood by the admission of pus.

Take myrrh finely powdered, ℥ij. spermaceti, ℥iv. mix well and add pure turpentine, $\text{℥ } \beta.$ with a q. s. of powdered olibanum make into a mass of pills. Dos. 3 grains every three hours. OR,

Take white peruvian balsam, white balsam copayba, $\text{āā } \text{℥ij.}$ Yolk of an egg, $\text{℥ } \beta.$ Mix well together, and add, liquorice powder, q. s. to make into a mass of pills. Dos. 2 grains morning, noon, and night. OR,

Take mastic, myrrh, olibanum, $\text{āā } \text{℥ij.}$ Reduce to a fine powder, then melt over a slow fire, spanish liquorice, pure turpentine, $\text{āā } \text{℥ } \beta.$ Sprinkle in the powder, and towards the end add, balm of Gilead, ℥j. make into a mass of pills with powder of liquorice. Dos. six grains 4 times a day with ℥vj. of the following drink.

A vulnerary balsamic infusion.

Take tender leaves of agrimony, betony, Jerusalem oak, ground-ivy, scabious, colts-foot, and fluellin, $\text{āā. } \text{℥ } \beta.$ Liquorice, $\text{℥j. } \beta.$ Infuse in ℔ij. of hot water over a brisk fire without boiling.

APH. MCCX.

See all the prescriptions at APH. 1209.

A deterging aperient decoction.

Take fresh leaves of male speedwell, M. j. $\beta.$ Pellitory of the wall, rue, āā. M. j. Garden valerian, M. $\beta.$ Poppy seeds bruised, ℥ij. Parsley roots, ℥vj. Boil in water $\text{℔iv. } \text{℥. a.}$ To the strained liquor add, Syr. of maiden-hair, ℥ij. Dos. ℥iv. every three hours.

Night Pills.

Take pil. de cynogloss, ℥j. Make into pills of 4 grains each; one of which is to be taken in the evening.

In the DROPSY.

A consolidating paregoric, when the spitting of
pus goes off.

Take fresh leaves of borrag, lesser comfrey and mallows, $\bar{a}\bar{a}$ M. j. Flowers of wild poppies, mullein, and St John's wort, $\bar{a}\bar{a}$ $\bar{z}$ j. Greater comfrey-roots, $\bar{z}$ β . Marshmallow roots, $\bar{z}$ j. Melon and poppy seeds, $\bar{a}\bar{a}$ $\bar{z}$ j. Peruvian bark, $\bar{z}$ vj. Boil in water q. s. to $\bar{f}$ iv. Dos. $\bar{z}$ ijj. every four hours.

In the Dropsy.

APH. MCCXXXIII.

A strengthening, stomachic wine to thin the stagnant
Lymph.

Take roots of masterwort, both the birthworts, zedoary, hartwort, $\bar{a}\bar{a}$ $\bar{z}$ j. Ginger, $\bar{z}$ vj. Flowers of lesser centaury, $\bar{z}$ ij. Rosemary, $\bar{z}$ j. German hedge hyssop, $\bar{z}$ iv. Laurel and juniper berries, $\bar{a}\bar{a}$ $\bar{z}$ j β . Garden and wild thyme, syrian mastic, $\bar{a}\bar{a}$ $\bar{z}$ j. Seeds of wormwood, tansey, and wormseed, $\bar{a}\bar{a}$ $\bar{z}$ j. Make into a fine powder, then,

Take of this powder, $\bar{z}$ vi. Neat French wine, $\bar{f}$ iv. Dos. $\bar{z}$ ij. 4 times a day when the stomach is most empty. OR,

Take of the above powder, $\bar{z}$ ij. Conserve of rosemary flowers, $\bar{z}$ j Fernelius's syr. of mugwort, q. s. Make into an electuary. Dos. $\bar{z}$ β . every 4 hours. A medicinal ale may be made of the same, allowing $\bar{z}$ xij. of the powder, to 16 gallons of ale. It may be used as common drink.

Here are also proper the several sorts of elixir proprietatis; volatile, oily aromatic salts; volatile, oily, acrid aromatic spirits.

APH. MCCXXXIV.

An aromatic, cardiac, acid mixture, which quenches
thirst, excites the vital powers, and thins the lymph.

Take essential oil of citron and orange peels, of cinnamon, $\bar{a}\bar{a}$ gr. ij. of lavender flowers and juniper berries, $\bar{a}\bar{a}$ gr. ij. make an elæosaccharum with $\bar{z}$ vj. of sugar. To which add rob of elder, and juniper berries, $\bar{a}\bar{a}$ $\bar{z}$ ij. spirit of salt, $\bar{z}$ j. Orange, cinnamon, and citron water, $\bar{z}$ j. Mint water, $\bar{z}$ x. M. Dose $\bar{z}$ j every two hours.

A cardiac, aperient, acid mixture.

Take dulcified spirit of nitre, $\bar{z}$ iv. spirit of scurvy-grass, $\bar{z}$ vj. Syr. of succory with rhubarb, of the five opening roots $\bar{a}\bar{a}$ $\bar{z}$ j. Rhenish wine, $\bar{f}$ j. Dos. $\bar{z}$ j. every 2 hours.

APH.

In the Dropsy.

APH. MCCXXXVII. No. 3.

Forms of mercurial purges.

Take turbith mineral, gr. β . White ginger, $\mathfrak{z}\beta$. M. To be taken every other morning in the pulp of a roasted apple.

OR,

Take calomel, gr. vii. Winters-bark, gr. viij. M. To be taken as the former.

A diuretic solvent tincture.

Take filings of copper, $\mathfrak{z}\beta$. Sal volatile oleosum, $\mathfrak{z}\mathfrak{v}\mathfrak{j}$. Mix and make a blue tincture. Dos. gut. xij. three times a day in $\mathfrak{z}\beta$. of Syr. of the 5 opening roots.

APH. MCCXLIII.

See APH. 334.

APH. MCCXLV.

Strong Emetics.

Take common emetic wine, $\mathfrak{z}\mathfrak{i}\mathfrak{j}\beta$. for 1 dose. Emetic tartar, gr. vj. for a dose. Turbith mineral, gr. vii. for a dose. Elaterium gr. iv. syr. of buckthorn, $\mathfrak{z}\mathfrak{j}$. M. for a dose.

APH. MCCXLVII.

A strong purging tincture.

Take resin of jalap and scammony, $\mathfrak{a}\mathfrak{a}\mathfrak{z}\mathfrak{j}$. senna leaves in powder, seeds of bastard saffron bruised, $\mathfrak{a}\mathfrak{a}\mathfrak{z}\mathfrak{i}\mathfrak{v}$. rectified spirits of wine, $\mathfrak{h}\mathfrak{j}$. mix and make a tincture f. a. when it is clear, add, purging syr. of roses with senna, $\mathfrak{z}\mathfrak{v}\mathfrak{j}$. M. Dos. $\mathfrak{z}\mathfrak{j}$. in the morning.

APH. MCCL.

A medicated strengthening wine.

Take fresh filings of iron, $\mathfrak{z}\mathfrak{i}\mathfrak{j}$. Peruvian bark, winters cinnamon, $\mathfrak{a}\mathfrak{a}\mathfrak{z}\mathfrak{i}\mathfrak{j}$. dried rhubarb, $\mathfrak{z}\beta$. Strong rhenish wine $\mathfrak{h}\mathfrak{i}\mathfrak{j}$. Make a wine f. a. Dos. $\mathfrak{z}\mathfrak{i}\mathfrak{j}$, thrice a day on an empty Stomach.

APH. MCCLII. No. 2.

A strong discutient cataplasim.

Take choice briony root and jalap, leaves of rue, wormwood and artichokes, flowers of melilot, and lesser centaury, onions and garlick, $\mathfrak{a}\mathfrak{a}\mathfrak{z}\mathfrak{i}\mathfrak{j}$. Boil in water f. a. to the consistence of a cataplasim, then add, galbanum (dissolved in the yolk of an egg) $\mathfrak{z}\mathfrak{i}\mathfrak{j}$. Linseed meal, $\mathfrak{z}\mathfrak{j}$. Linseed oil, $\mathfrak{z}\mathfrak{i}\mathfrak{v}$. Sal. Ammoniac, $\mathfrak{z}\mathfrak{i}\mathfrak{v}$. M.

A fomentation for the same intention

Take Venice soap, $\mathfrak{z}\mathfrak{i}\mathfrak{v}$. Treacle spirit of wine, $\mathfrak{z}\mathfrak{x}\mathfrak{i}\mathfrak{j}$. Mix well for a fomentation, to be applied with woollen cloths f. a.

In the diseases of VIRGINS.

A dry epithem for the hydrocele.

Take common salt ground very fine, and decrepitated. This to be applied hot and dry in thin linen bags, and to be renewed when it grows moist.

In the Gout.

APH. MCCLXXV.

The stomachics mentioned at APH. 1233 are here proper.

APH. MCCLXXV.

Take Glaubers alkahest, $\mathfrak{z}$ j. Dos. gr. ix. every morning in veal broth.

Lixivial Salts.

Take broom ashes, $\mathfrak{z}$ j. Rhenish wine, $\mathfrak{ss}$ β. M. Dos. $\mathfrak{z}$ β. of the clear liquor every morning.

In the diseases of virgins.

APH. MCCXCI. No. 3.

The uterine purgatives are,

Aloes,	Myrrh,	Briony root.
Bitter-apple,	G. Ammon.	Bdellium.
G. Sagapenum,	—Opopanax,	Galbanum, &c.

All the elixirs of proprietatis.

APH. MCCXCI. No. 4.

All the above remedies at No. 3.

Emenagogues are,

Birthwort, Mugwort, Motherwort, Camomile, Margoram, Feverfew, Rue, Savine, &c. and the distilled aromatic oils enumerated at APH. 75. No. 5. And also the resolvents at APH. 54. No. 4.

APH. MCCXCI. No. 5.

Emplasters.

Empl. of cummin, melilot, galbanum, laurel-berries, labdanum, &c. applied to the soles of the feet, the navel, and the groin.

Fomentations.

These may be made of Castile soap, and decoctions of the plants enumerated at APH. 1291. No. 4.

Liniments.

These are composed of the soldiers ointment, nerve ointment, elicampane ointment without mercury, Agrippa's ointment, sow-bread ointment, and the aromatic oils at APH. 75. No. 5. but more especially of the following essential oils,

Of Juniper berries,	Hyssop,	Mace,
Marjoram,	Marjoram of Crete,	Rosemary,
Savine,	Tansy,	Amber.

Oils

In diseases of WOMEN with CHILD.

Oils by infusion.

Oil of wormwood, dill, chamomile, rue, castor, &c.

A stimulating liniment.

Take of soldiers and nerve ointment, āā. ℥j. Essential oil of juniper-berries and savine, oil of rue, and castor by infusion, āā. ℥℥. Mix for a liniment to be applied to the navel, pubis, and groin.

Vapours may be made from decoctions of the plants given at APH. 1291. No. 4.

APH. MCCXCI. No. 6.

See APH. 1250. where a chalybeat wine is directed, which is here proper.

In diseases of women with child.

APH. MCCC.

An aromatic, cardiac wine.

Take choice citron and orange-peels, āā. ℥ij. Cinnamon, ℥vj. Winters-bark, ℥ij. Infuse in Spanish wine, ℔ij. Dos. ℥ij. at bed time.

Cardiac, antihysterical drops.

Take sal volatile oleosum, ℥j. Tincture of gumlac, ℥ij. Tinct. of castor, ℥℥. M. Dos. gr. xij. in the hysterical fit.

A cardiac, aromatic, acid mixture.

Take juice of citrons, Syr. of kermes, āā. ℥iv. Rhenish wine, ℔ij. Tincture of cinnamon, ℥ij. Tinct. of citron peels, ℥ij. M. Dos. ℥j. ℥. in faintings. OR,

Take rob of currants, marmalade of quinces, syr. of preserved barberries, juice of citrons, āā. ℥ij. Matthiolus's aqua vitæ, ℥j. Citron water, ℥xij. Dos. ℥℥. in faintings.

APH. MCCCII.

An emollient liniment.

Take Ung. popul. of roses, āā. ℥j. Nutritum, ℥vj. Sugar of lead, ℔j. Oil of roses, violets, St. John's-wort, by infusion, āā. ℥℥. Mix for a liniment in case of the piles.

APH. MCCCVII.

An astringent anodyne mixture.

Take of blood-stone prepared, Armenian bole, dragon's blood, āā. ℥j. Syr. of myrtles, ℥j. Pure laudanum, gr. iij. Plantane water, ℥j. M. Dos. ℥℥. every quarter of an hour, till the flooding abates, supposing it probable to be checked by this medicine.

APH. MCCCXVI.

For the liniments and fomentations here proper, See APH. 35. No. 5. and APH. 1302.

IN DISEASES OF WOMEN IN CHILDBED.

In diseases of women in childbed.

APH. MCCCXXIV.

A cardiac, anodyne antacid mixture to ease afterpains.

Take crab's-eyes prepared, $\mathfrak{z}\text{ij}$. Red coral prepared, $\mathfrak{z}\text{ij}$. Pearl prepared, $\mathfrak{z}\text{j}$. Pure laudanum, gr. ij . Syr. of kermes, $\mathfrak{z}\text{vj}$. Citron, baum, marjoram water, aa . $\mathfrak{z}\text{ij}$. Mix. Dof. $\mathfrak{z}\text{ss}$ every quarter of an hour, till the pains abate, drinking $\mathfrak{z}\text{ij}$. of the following decoction.

A cardiac, diluent, nourishing decoction.

Take pearl-barley, pot-oatmeal, aa . $\mathfrak{z}\text{j}$. Boil half an hour in 3 pints of water, and add Rhenish wine, lbj . Cinnamon-water, $\mathfrak{z}\text{ij}$. Syr. of kermes, $\mathfrak{z}\text{j}$. $\mathfrak{ss}$. M.

An antacid, anodyne powder.

Take essential oil of cinnamon, gr. ij . Pearl sugar, $\mathfrak{z}\text{j}$. Make into an elæosaccharum, to which add, Occidental pearl, $\mathfrak{z}\text{ss}$. Mother of pearl, $\mathfrak{z}\text{j}$. Red coral, $\mathfrak{z}\text{ss}$. Pure laudanum, gr. ij . Make into a fine powder and divide into six doses; one to be taken every half hour in $\mathfrak{z}\text{ss}$. of Rhenish wine till the pain abates, and afterwards only morning and evening for two days.

APH. MCCCXXXVI. No. 1.

For the antacids here necessary,

See APH. 66. No. 5. APH. 76. and 1324.

APH. MCCCXXXVI. No. 2.

For the soft diluents here proper, See APH. 54. No. 4.

APH. MCCCXXXVI. No. 3.

Discutients here proper.

A Cataplasm.

Take flowers of chamomile, elder, melilot, lavender, ss . $\mathfrak{z}\text{ij}$. Saffron, $\mathfrak{z}\text{j}$. Boil in new milk, and add, Venice soap, $\mathfrak{z}\text{j}$. Crums of bread, q. s. to make a cataplasma.

APH. MCCCXXXVIII.

Take Hungary water, q. s. Apply it with linen cloths. But the best remedy for chopped nipples is oil of wax made clear by repeated distillations. — Hungary water must increase the pain, when the nipples are chopped or inflamed.

A lenient, discutient liniment.

Take oil of sweet almonds, of St. John's-wort, violets, and roses by infusion, aa . $\mathfrak{z}\text{ss}$. Mix, and make a liniment.

In

In the diseases of CHILDREN.

In the diseases of children.

APH. MCCCXLII.

A mixture to dissolve the gluten.

Take honey, French wine, and hydromel, $\text{āā. } \mathfrak{z}\beta$. Mix for one dose.

A like mixture gently purgative.

Take Syr. of succory with rhubarb, $\mathfrak{z}\text{ij}$. Castile soap, $\mathfrak{z}\beta$. Baum-water, $\mathfrak{z}\beta$. M. For one dose.

APH. MCCCXLIII.

An aromatic spirituous tincture for an epithem.

Take cinnamon, mace, nutmegs, gum mastic, olibanum, $\text{āā. } \mathfrak{z}\text{ij}$. Treacle spirit of wine, $\mathfrak{z}\text{iv}$. Mix and make a tincture, to wash off the gluten.

APH. MCCCXLVI.

A gentle purge to expel the meconium.

Take fresh pulp of cassi, $\mathfrak{z}\beta$. Rhubarb, gr. ij . Syrup of succory with rhubarb, $\mathfrak{z}\text{ij}$. Mix for 1 dose. OR,

Take Calabrian manna, $\mathfrak{z}\text{ij}$. Purgng syr. of roses, $\mathfrak{z}\text{j}$. Elder-flower-water, $\mathfrak{z}\text{iv}$. Mix for one dose.

Suppositories here proper.

Take Castile soap, q. s. and cut into the form of a cone, or honey boiled to a hardness, or a small tallow-candle.

Cardiacs.

A cardiac draught to expel the meconium.

Take honey, $\mathfrak{z}\text{j}$. Spanish wine, $\mathfrak{z}\text{ij}$. Yolk of an egg, $\mathfrak{z}\text{ij}$. M.

OR,

Take simple cinnamon, $\mathfrak{z}\text{ij}$. Elixir proprietatis made with salt of tartar, gr. vj . Syr. of kermes, $\mathfrak{z}\text{j}$. Mix for a draught.

APH. MCCCXLVII.

A draught to soften the meconium.

Take fresh whey, $\mathfrak{z}\text{vj}$. Honey, $\mathfrak{z}\text{j}$. Mix for a draught. Whey, honey, and Castile soap, made into a clyster, is also proper.

APH. MCCCXLVIII.

Oily linctus's for the same intention.

Take olive-oil, Syr. of maiden-hair, $\text{āā. } \mathfrak{z}\text{ij}$. Mix for a dose.

OR,

Take fresh oil of sweet-almonds, $\mathfrak{z}\text{ij}$. Syr. of liquorice, $\mathfrak{z}\text{ij}$. M.

A Clyster.

Take linseed-oil, $\mathfrak{z}\beta$. Yolk of an egg, $\mathfrak{z}\text{ij}$. Honey of mercury, $\mathfrak{z}\beta$. Fresh whey, $\mathfrak{z}\text{j}$. M. To be injected every day till the belly is sufficiently loose.

For WORMS in CHILDREN.

A Liniment.

Take compound ointment of marsh-mallows, $\mathfrak{z}$ j. Linseed oil, $\mathfrak{z}$ ß. Make a liniment to anoint the abdomen morning and evening.

APH. MCCCL.

An antacid, absorbent powder.

Take crabs-eyes, osteocolla, chalk, the jaw-bone of a pike, prepared oyster-shells, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ ij. Make into a powder. Dof. gr. vij. twice or thrice a day.

An antacid mixture.

Take simple waters of corn-poppy-flowers, and fennel, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ ij. Crabs-eyes prepared, $\mathfrak{z}$ ij. Venice soap, gr. vij. Syr. of marsh-mallows, $\mathfrak{z}$ ß. M. Dof. $\mathfrak{z}$ ij. every hour, if the infant be not asleep,

APH. MCCCLVI.

An antacid mixture resolving coagulated milk.

Take Venice soap, $\mathfrak{z}$ ij. Yolk of eggs, $\mathfrak{z}$ iv. Crabs-eyes, $\mathfrak{z}$ ij. Rhubarb, $\mathfrak{z}$ ß. Mix in a marble mortar, and add, Simple mint water, $\mathfrak{z}$ iv. Syr. of marsh-mallows, $\mathfrak{z}$ ß. Dof. $\mathfrak{z}$ ß. every hour until the symptoms abate.

A clyster, for the same intention,

Take gall of an ox, $\mathfrak{z}$ ß. Honey of mercury, $\mathfrak{z}$ ß. Simple mint water, $\mathfrak{z}$ j. ß. M. Oils taken internally are also here proper, for which See APH. 1348.

For Worms in Children.

APH. MCCCLXIX.

An attenuating mixture, to kill worms.

Take gum opoponax, $\mathfrak{z}$ j. Yolk of an egg, $\mathfrak{z}$ ij. Mix well in a marble mortar, then add, Venice soap, $\mathfrak{z}$ j. Syr. of mugwort, $\mathfrak{z}$ j. ß. Fennel-water, $\mathfrak{z}$ ij. Dof. $\mathfrak{z}$ j. every 4 hours for 1 or 2 days, using a proper regimen,

A mercurial, purging, worm-powder.

Take æthiops mineral, troches of agaric, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ j. Fine Sugar, $\mathfrak{z}$ j. ß. Mix and divide into ten doses, one to be taken morning and evening, on an empty stomach.

An attenuating worm mixture.

Take salt of cardicus benedictus, $\mathfrak{z}$ ij. Syr. of the 5 opening roots, $\mathfrak{z}$ j. Fumitory water, $\mathfrak{z}$ iv. Dof. $\mathfrak{z}$ ij. every three hours.

An electuary for the same intention.

Take seeds of common wormwood, tansey, and wormseed, $\mathfrak{a}\mathfrak{a}$. $\mathfrak{z}$ ij. Honey, $\mathfrak{z}$ ij. M. Dof. $\mathfrak{z}$ ij. every morning.

APH.

For WORMS in CHILDREN.

APH. MCCCLXX.

A worm liniment gently purging.

Take the ointment of Agrippa, and sow-bread, āā. ℥j. Mix and anoint the navel with a little of it. OR,

Take ox-gall, and pure aloes, āā. ℥j. Ointment of marsh-mallows, ℥j. Mix and use as the former.

In the use of these we must take care that they do not purge too much; if they do we must desist, lest the infant should be flung into a dysentery.

APH. MCCCLXXI.

A mixture to kill worms.

Take honey, ℥ij. Sal gem, ℥j. β. Succory water, ℥iv. M. Dof. ℥β. every hour in the day.

Powders.

Take burnt harts-horn, ℥j. to be taken 4 times a day in Syr. of pale roses, ℥ij.

Take sea-moss prepared, ℥ij. Filings of iron, ℥β. Make into 16 doses.

Take seeds of rue, wormseed, tansey, and wormwood, āā. ℥j. Sugar, ℥ij. Make into 16 doses.

Mercurial worm-powders.

Take æthiops mineral, gr. viij. Vitriol a little calcined, gr. ij. Mix and make a powder for 2 doses, one to be taken in the morning fasting, and the other in the evening. OR,

Take calomel, gr. vij. Diagrydium, gr. v. Make into a powder for one dose, to be taken in a little mead in the morning.

APH MCCCLXXII.

Mercurial purges to kill and expel Worms.

Take diagrydium, gr. iv. Sweet mercury, gr. vj. Make a powder for one dose.

Take jalapin powder, æthiops mineral, āā, gr. xij. Mix for one dose.

Take agaric, gr. viij. Æthiops mineral, gr. xij. Mix for one dose.

APH. MCCCLXXIII.

Worm-clysters.

Take linseed-oil, ℥ij. For one clyster, OR,

Take honey, ℥ij. Succory water, ℥ij. Mix. OR,

Take a decoction of tansey, ℥ij. Aloes, gr. vj.

A Sup-

In the SMALL-POX.

A Suppository.

Take honey boiled to a proper thickness, $\mathfrak{z}\text{iv}$. Aloes, $\mathfrak{z}\beta$.
Vitriol of iron, $\mathfrak{z}\text{ij}$. Make into small suppositories, *s. a.*
or external ointments, See those directed at APH. 1370.

In Teething.

APH. MCCCCLXXVII.

An antiphlogistic, cooling mixture.

Take nitre, gr. xv. Spirit of salt, gut. v. Syr. of violets,
 $\mathfrak{z}\text{ij}$. Elder-flower-water, $\mathfrak{z}\text{ij}$. Mix. Let the gums
be frequently fomented with this. OR,
Take fresh cream, yolk of an egg, aa . $\mathfrak{z}\text{ij}$. Syr. of violets,
 $\mathfrak{z}\text{vj}$. Rose-water, $\mathfrak{z}\text{ij}$. M. Use as before.

APH. MCCCCLXXVIII.

Take spirit of hartshorn, gut. ij . Syrup of alkermes, $\mathfrak{z}\text{ij}$.
Mix for one dose to be given thrice a day.

In the Small-Pox.

APH. MCCCXCII.

Mercurial and antimonial powders against the variolaous poison.

Take diaphoretic antimony unwashed, $\mathfrak{z}\text{vj}$. Calomel, $\mathfrak{z}\beta$.
Genuine sal polychrest, $\mathfrak{z}\text{ij}$. Make into a very fine
powder, and divide into 24 equal doses; one of which
may be taken every 3 hours, drinking after each four
ounces of fresh whey. OR.

Take flowers of brimstone, $\mathfrak{z}\text{ij}$. Cinnabar of antimony, $\mathfrak{z}\text{ij}$.
Diaphoretic antimony nitrated, sal polychrest, aa . $\mathfrak{z}\text{ij}\beta$.
Make into a fine powder, to be divided and taken as
the former.

APH. MCCCXCIV. No. 2.

A laxative clyster.

Take flowers of mallows, marshmallows, dandelion, mullein,
soap-wort, aa . $\mathfrak{z}\beta$. Linseed meal, $\mathfrak{z}\text{ij}$. Boil in a
sufficient quantity of water to $\mathfrak{z}\text{xij}$. For a clyster to be
injected every 10 hours.—The feet, legs, hams, and
thighs may be fomented with the same decoction, and
the mouth frequently washed with it.

APH. MCCCXCIV. No. 3.

A diluent, nitrous, and acid decoction to expel the variolaous stimulus.

Take flowers of wild-poppies, of elder, aa . $\mathfrak{z}\text{ij}$. Whole oatmeal,
 $\mathfrak{z}\beta$.

In the SMALL-POX.

℥℥. Boil in a sufficient quantity of water to ℥xx. To which add, nitrated antimony, ℥℥. Juice of citrons, ℥j. Syr. of violets, ℥j℥. Use for common drink.

APH. MCCCXCIV. No. 4.

The diet here may be that directed at APH. 28. No. 1.

APH. MCCCXCIX. No. 1.

The diet directed at APH. 28. No. is here also proper.

APH. MCCCXCIX. No. 2.

See APH. 1394, where acid diluting drinks are recommended.

APH. MCCCXCIX. No. 3.

A juice preventing the formation of Pus in the inflammatory stage of the small-pox.

Take the expressed juices of succory, lettuce, dandelion, fumitory, āā. ℥ij. Of the roots of vipers-grafs, ℥iv. Pure nitre, ℥j℥. Dof. ℥j. every hour in the day.

A decoction for the same intention.

Take roots of sarfa, china, grafs, āā. ℥ij. Vipers-grafs, ℥viij. Elder-flowers, ℥j. Boil an hour in water q. s. Strain off 3 quarts of the liquor. Let ℥v. be drank every hour.

APH. MCCCXCIX. No. 4.

Plasters to divert the impetus of the humours from the nobler parts.

Take melilot plaster, gum galbanum, sagapenum, āā. ℥j. Make a plaster to be applied to the soles of the feet.

A stronger.

Take four yest, ℥vj. Rue, ℥j. Bruised mustard seed, ℥vj. Salt, ℥iv. Vinegar, ℥iv. Apply to the soles of the feet and hams night and day.

APH. MCCCXCIX. No. 6.

An anodyne draught.

Take diacodium, ℥j. For one dose. OR,

Take pure laudanum, gr. j. Baum water, ℥℥. Mix. OR,

Take pure laudanum, gr. j. in a pill. For one dose.

APH. MCCCCII.

Consult APH. 1394. and 1399. No. 6.

For

For the STONE.

For the Stone.

APH. MCCCCXXV.

Pot herbs of service here.

Borage,	Chervil,	Gum-succory,	Turnips,
Lettuce,	Parsley,	Carrots,	Skirrits, &c.

Some, or all of these boiled in broth, make an excellent diet; and also whey, milk, and butter milk.

The use of these continued till the belly becomes pretty loose, is generally of great advantage, and frequently a happy period is put to the disorder, though the body is sometimes weakened thereby.

APH. MCCCCXXVI.

An aperient, relaxing, emollient clyster, gently moving the Stone.

Take leaves of mallows, marsh-mallows, mercury, pellitory of the wall, bear's-breech, and orach, aa. M. iv. Boil in a sufficient quantity of water. The same decoction may serve for common drink, as it possesses all the virtues of its title, and also for clysters.

An oily lubricating decoction.

Take sweet almonds, No. xxx. Pistachio nuts, No. xx. White poppy-seeds bruised, ℥ij. Blanch the nuts and bruise the whole into a pulp, and then boil in water, q. s. for half an hour, then beat them in a marble mortar for a long time, and add Venice soap, ℥iv. Liquorice, ℥ij. Let them boil again a little while, and strain off ℔ij. of the liquor. Dof. ℥viiij. four times a day walking a little after it.

An opiate, anodyne, and aperient mixture.

Take Syr. of the 5 opening roots, ℥j. ℔. Pure laudanum, gr. ij. Purified nitre, ℔j. Parsley-water, ℥vj. Dof. ℥℔. every hour.

A forcing diuretic.

Take red chiches bruised, ℥ij. Parsley-seeds, ℥j. Roots of grafs and parsley, aa. ℥iv. Leaves of agrimony, golden-rod, male speedwell, aa. M. ℔. Liquorice, ℥j. Boil half an hour in 3 pints of water; to which add, Nitre, ℥ij. Dof. ℥ij. every hour.

In the LUES VENEREA.

In the Lues Venerea, for Men.

APH MCCCCLVIII.

An antiseptic fots for Men.

Take fresh leaves of rue, water-germander, sauce-alone, and mallows, āā. M. ij. To be applied to the parts affected. Of the same decoction an injection may be made.

A detergent injection for ulcers in the urethra.

Take honey of roses, ʒj. Finest aloes, ʒβ. Sal ammoniac, gr. iv. Simple fennel-water, ʒvj. M.

Purges.

Take jalap in powder, ʒj. Calomel, ʒj. M. For 1 dose.

Take scammony, gr. xij. Jalap, gr. xvij. Calomel, gr. xxv. M. For one dose.

Take the greater pil. cochiae, ʒij. White præcipitate, gr. iij. Make into pills for one dose, to be taken early in the morning.

A cooling emulsion.

Take of the greater and lesser cold seeds, āā. ʒij. Make into an emulsion, f. a. with ʒj. β. of barley-water, to which add, Nitre, ʒj. Syr. of white poppies, ʒβ.

Balsamic Pills, that also purge off the humours.

Take common turpentine, ʒj. Rhubarb, ʒiv. Liquorice pulverized, q. s. Make into pills of 4 gr. each; one to be taken every hour.

APH. MCCCCLX.

An anodyne discutient cataplasm.

Take flowers of elder, melilot, camomile, wild-poppies, and marsh-mallows, āā. ʒij. Boil in milk, q. s. and add, linseed-meal, oil of linseed, ʒβ. Spirit of wine with theriaca, ʒj. Mix and make a cataplasm.

APH. MCCCCLXI.

A dissipating plaster.

Take flowers of brimstone, ʒij. Æthiops mineral, ʒij. Sugar of lead, ʒij. Melilot, cummin, galbanum, ammoniac, and sagapen plasters, āā. ʒβ. Mix for a plaster to be spread upon leather. OR,

Take flowers of brimstone, ʒiv. Sugar of lead, ʒj. Shoemakers-wax, ʒij. Mix and use as before.

A sup-

In the LUES VENEREA.

A suppurating cataplasm for a venereal bubo.

Take soft ripe figs, ss . New honey, ʒij . Gum galbanum dissolved with the yolk of an egg, ʒj . Boil *s. a.* in water, *q. s.* to the consistence of a cataplasm.

A detergent powder for a bubo.

Take the dry leaves of water-germander, ʒij . White vitriol, ʒij . Aloes, ʒj . Make into a fine powder to be sprinkled on the bottom of the ulcer.

APH. MCCCCLXII.

A Plaster.

Take the melilot and pompholyx plasters, aa . *q. s.* Take Vigo's plaster with double the quantity of mercury, *q. s.* Make a plaster to be spread upon leather. Cataplasms and fomentations are here likewise of great service.

APH. MCCCCLXIII.

Take corrosive mercury sublimate, ʒj . Lime-water, ʒij . Mix, let the pustules or shankers be gently touched with this once or twice, gradually increasing the quantity of the lime-water, to render the mixture more mild.

APH. MCCCCLXVI.

A detergent, antiseptic fomentation.

Take fresh leaves of water-germander, wormwood, sauce-alone, rue, rosemary, aa . *M. ij*. Flowers of tansey, lesser centaury, and carduus, aa . *M. j. ss*. Roots of master-wort and black hellebore, aa . ʒj . Boil in five pints of water, and to the strained liquor add, Venice soap, ʒj. ss . *M.* With this let the pudenda be frequently washed.

APH. MCCCCLXVIII.

A diluent, aperient decoction to be drank before salivation.

Take roots of grass, china, and farsa, aa . ʒij . Pearl-barley, ʒvj . Liquorice roots, ʒj. ss . Boil in water, *q. s.* for two hours, to 3 pints. *Dos.* ʒiv . every hour.

APH. MCCCCLXIX.

A salivating bolus.

Take sweet mercury pulverized, *gr. ix*. For one dose, to be repeated every two hours.

APH.

In the RICKETS.

APH. MCCCCLXXIII.

A purging clyster to lessen the salivation.

Take fenna leaves, ℥j. Agaric, ℥iv. Seeds of bastard saffron, ℥ij. Jalap-root, ℥j. Boil in water, q. s. to ℥xij. for a clyster.

A purging draught for the same intention.

Take diagrydium, gr. xv. Purging syr. of roses with fenna, ℥vj. Mix for one dose.

A fudorific bolus.

Take of Sylvius's diascordium, gr. xxiv. For one dose.

APH. MCCCCLXXIV.

An anodyne powder to stop a diarrhoea in a salivation.

Take pure laudanum, gr. iij. Red coral prepared, ℥j. Pearl-sugar, ℥ij. Mix and make into six equal doses, every quarter of an hour till the diarrhoea abates.

In the Rickets.

APH. MCCCCLXXXIX.

The best Diet, is,

1. Bread well fermented, biscuit seasoned with a little saffron, nutmeg, cardamons, cinnamon, and the like.
2. Veal, mutton, kid, rabbits, chicken, and pigeons, not fat, and cut small, and then mixed with biscuit, salt, a little parsley, nutmeg, thyme, and such like seasoning.
3. Rice, millet, barley, boiled in water with currants, and seasoned with wine and the milder spices.

The best Drink is,

Rough old claret, drank 3 or 4 times a day to the quantity of one ounce,

Hippocratic wine, Brunswick mum, British ale, mixed in the summer time with an equal quantity of Spa water.

An aromatic, drying, strengthening powder for a bed and pillow.

Take the dried leaves of male fern, marjoram, baum, and mint, āā. M. ij. Dried flowers of melilot, sweet-scented trefoil, elder, and roses, āā. ℥ij. Mix and beat into a powder, and with twice the quantity of wheat chaff, make into a little bed and pillow to lie upon, drying them often to carry off the moisture.

An aromatic, strengthening fumigation.

Take benjamin, mastic, olibanum, amber, and thus, āā. ℥j. Mix and make a powder, the fumes of which are to be caught

In the RICKETS.

caught in flannel, the powder being first thrown upon live coals. When the flannel is sufficiently filled with the fume, the parts are to be rubbed with it. A 3j. of the powder is sufficient to be used at a time.

A gentle vomit for a child.

Take ipecacuanha-root, ʒj. White wine, ʒj. Loaf-sugar, ʒij. Infuse all night, and in the morning pour off the clear for one dose, and repeat it five times, every fourth day.

A purging, strengthening drink.

Take choice rhubarb, ʒβ. Yellow myrobalans with their stones, ʒiij. Troches of agaric, ʒij. Infuse cold in two quarts of strong ale. When they have stood 24 hours, it will be fit to drink. If it purges over much, more ale may be added.

Strengthening, drying, and antiscorbutic plants
proper in the cure of the Rickets.

Agrimony,	Sanide,	Oak, leaves and Bark of the caper-
Dodder,	Liver-wort,	fruit, root,
Male fern,	Rhubarb,	Bramble, leaves Speedweed,
Polypody,	Spleen-wort,	and root, Tamarisk, bark,
Scabious,	Endive,	Succory, flowers, and
Betony,	Baum,	Harts-tongue, leaves.

From these may be prepared medicated
ales, wines, and infusions, &c. For example,

A strengthening, stimulating ale.

Take leaves of agrimony, spleen-wort, harts-tongue, roots of male fern, of polypody, and wall-rue, āā. ʒij. Being cut small and mixed, tie them in a linen bag, and infuse cold in six quarts of ale.

A strengthening wine.

Take leaves and flowers of betony, ʒiij. Bark of the caper root, tamarisk, and bramble, black maiden-hair, āā. ʒij. Filings of iron, ʒβ. Infuse cold in a gallon of wine. Dof. ʒj. thrice a day.

Take Boyle's Ens veneris, gr. ij. Give it every morning for 3 weeks in a little Canary.

A chalybeat strengthening tincture.

Take filings of iron, ʒj. Strong distilled vinegar, ʒx. Sugar, ʒiij. Boil 24 hours in a tall glass vessel. Filtre the liquor and keep it close stopped. Dof. Six drops every morning and evening in a little Spanish wine.



4

A GENERAL INDEX to the *Abridgement*
of Baron VAN SWIETEN's *Commentaries upon*
the *Aphorisms* of HERMAN BOERHAAVE.

* * v. refers to the *Volume*, ap. to the *Aphorism*, p. to the *Page*.

N. B. Wherever the *Page* is specified, the *Commentaries*
are always referred to.

A.

ABCESS, what, v. i. ap. 402. p. 361. Cured by a purulent
diarrhæa, p. 366. Manner of opening it, p. 368. Re-
markable instance of it after a fever, v. ii. p. 44. Signs of
its being formed in the lungs, ap. 855. Method of treat-
ment, ap. 893, 895. p. 24, 26. Signs of in the liver, v. iii.
ap. 935, 936. p. 59. Effects of, ap. 936. Palliatives,
ap. 942. Cure, ap. 943.—In intestines how known, ap.
965. Its effects, *ibid*. Treatment, ap. 966. In kidneys;
how known, ap. 1001. p. 150. Cure, 1002. p. 150.

Abdomen, wounds of, when and wherefore mortal, v. i. p. 179.
Not penetrating how known, ap. 306. Producing her-
nias, ap. 307. Treatment, ap. 308. Penetrating how
known, ap. 309. A caution, p. 285. Diagnosis of safety
in the abdomen, ap. 309. Treatment, ap. 311. Diag-
nosis of danger from wounded viscera, ap. 312. p. 286.
Correspondent methods of treatment, ap. 314—321. Open-
ing it recommended in dangerous intususcptions, v. iii.
p. 107.

Absorbents, their use in an acid acrimony, v. i. p. 74.

Absorption of extravasated fluids, how promoted, v. i. ap. 279,
to 281. p. 262.

Abstergents (saponaceous) good in putrid cases, v. i. p. 99.

Abstinence, why injurious to children, and to the aged, v. ii.
p. 59.

I N D E X.

- Accademie des sciences*, instances of aneurism from them, v. i. p. 182.
- Accident*, remedies discovered by it, v. i. ap. 11. p. 12.
- Acids*, their coagulating and resolving power, v. i. p. 133.
- Acidity*, its effects upon the first passages, v. i. ap. 66. p. 74.
Cause of epilepsy, v. iii. p. 228.
- Acrimony (acid)* its antecedent causes, v. i. ap. 61. Its seat, ap. 62. p. 68. Various kinds of, the causes of fevers, v. ii. p. 587. To be removed in the cure, ap. 604. p. 63. *Alkaline*, whence, v. ii. p. 114. Cause of thirst, *ibid.* Cure, *ibid.* Cause of cachexy, v. iii. ap. 1181.
- Ages*, diseases incident to the different ages, v. i. ap. 61.
- Air*, admission of, productive of putrefaction, v. i. ap. 106. p. 114. Injurious to wounds, ap. 204. p. 203. *Foggy*, checks perspiration, v. ii. p. 22. *Warm and moist*, its putrescent power, p. 66. How counteracted, p. 67. Impregnated with various bodies, *ibid.* *Elastic* in vegetables, p. 113. *Confined*, why pernicious in fevers, ap. 698. p. 170. *Cold*, blown upon a heated body, cause of pleurisy, v. iii. p. 9. State of air the common cause of epidemic diseases, v. v. ap. 1407. From the vapour with which it is impregnated, ap. 1408. Difficult to ascertain the immediate cause, p. 35. *Fixed and elastic*, p. 83. Dry and warm necessary for rickety patients, p. 129.
- Alexipharmics*, when properly administered, v. iii. p. 70.
- Aliments, restorative*, recommended in gangrenous cases, v. i. p. 388. *Thin*, in fevers, v. ii. ap. 599. p. 54. *Antiputrescent* specified, p. 54. To be given in the remissions, ap. 600. p. 55. Their quantity and quality regulated, p. 57—60. Proper for consumptive persons, ap. 1121. p. 49.
- Alkali spontaneous*, produced by some plants, v. i. ap. 76. p. 88. In the body, p. 29. In various animals, ap. 93. *Fixt*, its properties and medical virtues, v. i. p. 150.
- Alkaline salts*, good in viscid crudities, v. iii. ap. 1179.
- Alkohol*, its coagulating power, v. i. p. 133. Recommended in hæmorrhages, p. 211.
- Amputation*, when necessary in contusions, v. i. ap. 337. p. 306. ap. 351. p. 318. Plethora, consequent upon amputation, how prevented, ap. 474. p. 407.
- Anasarca*, what? distinguished from the leucophlegmatia, v. iv. p. 78; 79.
- Anchylosis*, what, the consequence of luxation, v. i. ap. 343, p. 325. ap. 556. p. 470. Cause, *ibid.* Cure, *ibid.* Produced by rheumatism, v. v. ap. 1492. p. 142.
- Animals*, particularly subject to madness, without infection, v. iii. ap. 1132.

Animals

I N D E X

- Animals* (alive) their use in wounds of the intestines, v. i. ap. 315. p. 292.
- Anodynes*, internally and externally exhibited, as palliatives in scirrhus tumours, v. i. p. 430.
- Anthelmintics*, divided into three classes, v. iv. p. 250.
- Anthrax*, what? how cured, v. i. p. 372.
- Antients*, their ideas of the atrabile, v. iii. p. 242.
- Antispasitics*, their use in convulsions, &c. v. ii. ap. 713. p. 189.
- Antiseptics*, their use in vomicas, v. iv. p. 43.
- Antiscorbutics*, what? v. iii. p. 307. *Acrid*, when to be administered, p. 311. These particularly enumerated, v. iv. ap. 1165. Recommended in rheumatisms, v. v. p. 50.
- Anus*, powerful constriction of, sign of inflamed bowels, v. iii. p. 100.
- Anxiety* in fevers, whence? v. ii. ap. 631. Chief seat of it in the right ventricle of the heart, p. 107. Effects produced by it, ap. 632. Diagnosis and prognosis, ap. 633. Cure to be varied, ap. 634. From obstruction of blood in the vena portarum, how known? p. 107, 109. The effects produced by it, ibid. Spasmodic why not of equal danger, p. 111.
- Aorta*, compressed by a full stomach, the effects of, v. i. p. 138.
- Apophysis* of bones, the frequent seat of inflammations, v. i. p. 452.
- Apoplexy*, definition of, v. iii. ap. 1008. Proximate cause, ap. 1009. Predisposing causes, ap. 1010. Different kinds of, ap. 1012. p. 163. Violence of, how known? ap. 1015. p. 165. Slight, how cured, ap. 1017. Termination in other diseases, ap. 1018. Prognostic of, ap. 1020. Cures, various, ap. 1022 to 1027. Prevention of, ap. 1030. Arising from extravasated fluids, how treated, ap. 1032. Distinguished from syncope and deliquium, p. 157.
- Apoplexy* from injuries of the head, v. i. ap. 261. p. 252. ap. 265. p. 258.
- Appetite*, canine, from a palsy in the stomach, v. iii. p. 212.
- Applications*, *acid*, external, productive of fevers, v. ii. p. 25.
- Apthæ*, the causes of fatal diarrhæa, v. ii. p. 197.
- Areteus*, his remarks upon scirrhus tumours, v. i. p. 48.— Upon ardent fevers, v. ii. p. 231.
- Arm pits*, the seat of scirrhus tumours, v. i. ap. 483. p. 47.
- Aromatics* (mild) useful to remove flatus, v. ii. ap. 650. p. 133. Good in cachexy, from viciâ crudities, p. 133.
- Artery*, a wound of, remarkable instance of cure, v. i. p. 165. In what case curable, p. 178. Seat of inflammations, ap. 374. p. 333.

I N D E X.

- Ascarides*, their shape, size, and seat, v. iv. p. 243.
Ascites, distinguished from a dropsy, of the peritoneum, v. iv. ap. 1226.
Asparagus productive of Gout, v. iv. ap. 1258. p. 134.
Aspera arteria, the seat of the quinsy, v. ii. ap. 808. Symptoms, *ibid.* Of watery tumours, v. iv. ap. 1221. p. 71.
Astringents, their use in weak fibres, v. i. p. 29. Manner of acting, p. 32. *Internally*, of small force in suppressing hæmorrhages, p. 214. Their use in diarrhæas, v. ii. p. 205. A caution concerning them, *ibid.* Too freely used the cause of palsy, v. iii. ap. 1060. Their use in hæmoptoe, v. iv. p. 15. These enumerated, p. 18.
Attenuants of the blood, v. i. p. 146. v. iii. p. 102.
Attrahents, what? v. i. p. 148.
Attrition, the cause of heat, p. 342.
Atrabile, the cause of scirrhus tumours, v. i. p. 419. Cause of melancholy, v. iii. ap. 1089. Causes of this humour enumerated, ap. 1093. Turgid, what implied by it, ap. 1104. Cure, ap. 1110.
Atrophy, the effect of scirrhus tumours, v. i. ap. 486. p. 422. the consequence of a diarrhæa, v. ii. ap. 721. p. 200.
Aurelianus, his opinion concerning the seat of a pleurisy, v. iii. p. 5.

B

- Baglivi*, axioms from, concerning the illiac passion, v. iii. p. 112.
Balsams, their use in diseased lungs, v. iv. p. 40.
Barbette, singular practice recommended by him in diseases of the intestines, v. iii. p. 107.
Bark (peruvian) excellent in gangrenes, v. i. p. 394. In apthæ, v. iii. p. 136.
Bandages, the bad consequences of tight ones, in fractures, v. i. ap. 356. When necessary in laxations, p. 331.
Bathing (sea) recommended in maniacal cases, v. iii. p. 1123.
Baths, their relaxing virtues, v. i. p. 142. Their use in rheumatisms, v. v. p. 144.
Baxtram, his opinion concerning the cause of scurvy, v. iii. p. 296.
Belloste, instance of a cure from him, v. i. p. 239.
Bennet, his observations upon deformed persons, v. i. p. 409. Upon the phthisis pulmonalis, v. iv. p. 6—9.
Bianchi, diagnostic signs of encysted droppies from him, v. iv. p. 86.
Bile, its dissolving power, v. i. p. 78. Tendency to putrify, p. 93. Its soapy nature, p. 151. Exalted, productive of fevers, v. ii. p. 28.

Biscuits,

I N D E X.

- Biscuits*, with aromatics, recommended in spontaneous glau-
ten, v. i. p. 85. To ricketty patients, v. v. p. 128.
- Bitters*, aromatic, &c. v. iv. p. 251.
- Bladder*, wounds in it, how treated, v. i. p. 179. Effects from
its being paralytic, v. iii. p. 213. Inflammation from stone,
v. v. ap. 1421.
- Bleeding* necessary to promote absorption of extravasated blood
from the brain, v. i. p. 262, 303. Useful in some species
of continued fevers, v. ii. ap. 729. p. 216, 249. In inter-
mittents, pernicious, ap. 762. p. 272. Copious, recom-
mended in phrensy, ap. 781. p. 287. In inflammation of
intestines, v. iii. p. 102. Not always necessary in apoplex-
ies, p. 176. ap. 1029, 1030. p. 181. When serviceable
in epilepsies, p. 233.
- Bleeding*, whether adviseable in the scurvy, v. iii. p. 309.
in an hæmoptoe, v. iv. ap. 1200. p. 14. Directions con-
cerning it, ibid. ap. 1201. p. 20. When useful in the gout,
ap. 1270. p. 146. In pregnant women, ap. 1298. p. 181.
passim. In the rheumatism, v. v. p. 143.
- Blood*, its density, what? v. i. ap. 48. p. 47. Appearance
in a healthy person, p. 53. Reduced by diluents, p. 56.
Whether acid? p. 69. Subject to putrefaction, p. 95.
Rendered unfit for nutrition, 96. All fluids secreted from
it, ap. 92. Its nature, ap. 93—97. To what its redness
is owing, p. 105. Observations of Malpighi, concerning
its first appearance in an egg, p. 106. Frequent blood-
letting pernicious, p. 116. The causes of its concretion
explained, p. 131. *Extravasated*, its bad effects, p. 230.
How removed, p. 231. From the nostrils, sign of injured
brain, p. 279. Atrabiliary state of, v. iii. p. 45. Cause
of hepatitis, ap. 916. p. 45. State of it in scurvy, ap.
1551. N^o. 3.
- Bodies* foreign, when and how to be extracted from wounds,
v. i. ap. 186—8.
- Bohnius*, instance of a wound in the head from him, v. i.
p. 233.
- Boil*, the nature of a, v. i. p. 372.
- Boles*, their use in putrid dysenteries, v. i. p. 99.
- Bonet*, instance given by him of the usefulness of dissections,
v. i. p. 12.
- Bonet*, instance from, of the fatal effects of swallowing fruit
stones, v. iii. p. 118. Case of dropsy in the fallopian tubes
v. iv. p. 74.
- Bones*, fractured, extension of, how performed, v. i. ap. 349.
fragments of, how treated, ap. 351. Their pernicious
effects,

I N D E X.

- effects, p. 37. The complete reduction how known, ap. 353. p. 319. A caution concerning the appearance of the os illium, p. 319.
- Bones*, diseases of, v. i. ap. 512. p. 445. Seats of the disease, ap. 516—524. Caries of, ap. 546. Construction of, p. 445, 446.
- Borborygmi*, whence they proceed, v. i. p. 372.
- Boyle*, his experiments upon elastic air, v. ii. p. 133.
- Brain*, cortical substance of, insensible of pain, v. i. p. 251. Injuries induced upon it by wounds of the head, ap. 273, 274. Symptoms of these injuries, ap. 275. The seat of these injuries how known, ap. 276. Method of treatment, ap. 277. Degrees of danger specified, ap. 295. Compressions of cause of, coma, v. ii. p. 180. Diseases of, v. iii, p. 225. State of, in maniacal patients, v. iii. p. 1121.
- Bread*, decoctions of, nutritive to weak persons, v. i. ap. 28. p. 27. *Rye*, its tendency to turn sour, p. 43.
- Breast*, pain in, beneficial in phrensies, v. ii. p. 286.
- Broths*, proper food for weak persons, v. i. ap. 28. p. 27. Which preferable, *ibid.* Strong broths pernicious to phthical patients, p. 103. Nutritive in febrile weaknesses, v. ii. p. 149. Chicken broths, their use in the cholera morbus, p. 201.
- Brunswick*, mum, its nutritive quality, v. v. p. 128.
- Buboes*, different kinds of them, v. i. p. 372. (Venereal) how treated, v. v. ap. 1461. p. 106.
- Burns*, v. i. ap. 476. Degrees of them, ap. 477.
- Burns*, different effects of them upon the body according to the cause, v. i. p. 408. Part affected, p. 410. Various remedies specified, p. 411.

C.

- Cachexy*, definition of, v. iii. ap. 1166. *Proximate* causes, ap. 1167. *Occasional*, enumerated, ap. 1168. p. 37. Effects of, ap. 1170. Prognostics, ap. 1173. Cure, 1174.
- Cacochimy* (plethoric) why bleeding pernicious in it, v. ii. p. 166. The effect of cachexy, v. iii. p. 323.
- Calculus*, the cause of a nephritis, v. iii. ap. 1006. (See *Stone*.)
- Callus*, definition of it, v. i. p. 124. Callous feet, how relieved, p. 143. Luxuriant after a fracture, p. 310.—Soon formed in young subjects, p. 314. Tedious in venereal diseases, with difficulty in pregnant women, p. 314. How formed, p. 315. Time of its forming, ap. 357. p. 32.
- Cancer*,

I N D E X.

- Cancer*, what? v. i. ap. 492. Pathognomic symptoms, p. 432. Degrees of malignity in its first stage, ap. 493. p. 433. *Latent*, what? ap. 493. *Open*, what? *ibid.* Causes of, ap. 495. p. 435-6. Seat of, ap. 496. *Occult* diagnosis of, ap. 497. p. 437. *Open* diagnosis of, ap. 498. Progress of malignancy, ap. 499. Extirpation of, ap. 501 and 510. Palliatives, ap. 506 and 510. Acrimony of humours hurtful to it, how prevented, ap. 507. p. 441.
- Capillaries*, their contracting symptoms of a fever, v. i. ap. 581.
- Cardiacs*, a caution about the use of them in dropics, v. iv. ap. 1233. p. 111.
- Caries* of bones of the skull, its bad effects prevented, v. i. p. 248. Caries of a bone what, p. 465. Why uneven, v. ii. ap. 550. Why offensive, ap. 552.
- Carus*, what? distinction from apoplexy, v. iii. ap. 1045.— From coma, lethargy, paraploplexy, p. 193. Cure, ap. 1047.
- Caruncles*, what? v. v. p. 97. The seat of them, p. 98, 99. Cause of an ischuria, *ibid.*
- Catalepsy*, definition of, v. iii. ap. 1036. Proximate cause, 1037. Predisposing, 1040. Cure, 1042—44.
- Cataplasms*, applicable to gangrenes, v. i. ap. 450.
- Cathartics*, their uses in dropics, v. iv. p. 59.
- Causes*, proximate, predisposing and occasional, described and exemplified, v. i. ap. 11. p. 10. v. ii. p. 18, 19. The first cause of a disease to be chiefly regarded, v. i. p. 45. Of symptoms to be attended to, v. ii. p. 96. Procatartic causes, what? v. iii. p. 170.
- Celsus*, his manner of treating a wounded viscus, v. i. p. 178. Ligatures used by him in wounds, p. 212. His observations upon a diseased brain, p. 265. Upon a marasmus, p. 328. A gangrene, p. 385.
- Cephalic herbs*, their use in the hydrocephalus, v. iv. p. 59.
- Chalybeates*, good in cachexy from viscid crudities, v. iii. ap. 1179.
- Cheese*, salt, productive of scurvy, v. iii. p. 298.
- Children*, moderation recommended respecting their exercise or study, v. i. p. 63.
- Children*, diseases of, v. iv. ap. 1340. *passim.* The change they experience upon their birth, p. 231.
- China root*, its virtues in venereal diseases, v. v. p. 121.
- Chlorosis*, its remedy, v. i. p. 21.
- Chymistry*, observations upon chymical bodies, v. i. p. 151.
- Cicuta*, used by Dr. Stork in the rickets. v. v. p. 133.

I N D E X.

- Circulation*, in what manner interrupted by rigid vessels, v. i. p. 53. Increased, its effects upon the blood, ap. 97. Its causes, ap. 98, 99. Effects, ap. 100. Diagnosis, ap. 101. Cure, ap. 102 to 5. Diseases arising from its defects, ap. 106. Irregular, cause of cachexy, v. iii. ap. 1172. p. 226.
- Clysters*, emollient, peculiarly serviceable in paraphrenitis, v. ii. ap. 911. p. 42. (See *Glysters*.)
- Cocchi*, instance of an hydrophobia from him, v. iii. p. 275.
- Coldness* of the air, how moderated, v. ii. p. 25.
- Coldness*, the first symptom of fevers, v. ii. ap. 575. This explained, p. 12. What denoted by it, ap. 621. Its effects, ap. 622. Diagnostic, ap. 623. p. 97, 98. Cause of palsy, v. iii. ap. 1060. p. 208. Application of, useful in tympanies, p. 125.
- Cold*, applied to parts highly inflamed, injurious, v. i. p. 349. Producing gangrene, ap. 422, p. 376. Gangrenes from, how treated, ap. 454. p. 397. Its effects upon the body, p. 398.
- Colon*, inflammations of, v. iii. ap. 963. p. 100.
- Coma febrile*, what? v. ii. ap. 703. p. 178. Cause of it, 704. Cure, ap. 705. Various distinctions of it, v. iii. ap. 1048.
- Copper*, medicines prepared from it, recommended as anthelmintic, v. iv. p. 252.
- Concretions* (stones) how formed in the liver, v. ii. ap. 948. p. 66.
- Concoction*, what? v. i. p. 43. Of morbid particles, v. ii. p. 31.
- Consumption*, pulmonary, what? v. iv. ap. 1196. Proximate cause, ap. 1197. Remote causes, arising from tender vessels, (No. 1.) Viscera (No. 2.) Age (3.) Hereditary disposition (4.) Three things necessary to constitute it, p. 2. General treatment of it, ap. 1214. p. 51.
- Contraction* (spasmodic) of the vessels, how remedied, v. ii. ap. 608. v. ii. p. 81. Cause of nephritis, v. iii. p. 144.
- Contusions*, definitions of, v. i. ap. 321, 322. Effects of in different parts of the body, ap. 323 to 328. Diagnosis, ap. 329. Prognosis, ap. 330. Cure by resolution, ap. 331, and 336. Suppuration, ap. 337. Diagnosis of the parts injured, from their appearance, p. 300. From fractures, p. 311.
- Contusions*, evil effects from them, tumours occasioned by them, larger than others, v. i. p. 234. And of the skull described, p. 241.
- Coste*, the cause of gout ascribed by him to an acrid acrimony, v. iii. p. 137.

Cough,

I N D E X.

- Cough*, dry, in ardent fevers, v. ii. ap. 739. p. 231. Consequence of empyema, ap. 1187. p. 344. Of ulcers of the lungs, v. iv. ap. 1196.
- Convulsions* from violent pain, v. i. p. 220. From inanition, p. 221.
- Convulsions*, definition of, v. i. ap. 230. Their cause, ap. 231. Effects, ap. 233. Cure, ap. 234. Consequent upon luxations, ap. 366. p. 322. From amputations, removed by emollients, p. 406. In fevers, what, v. ii. ap. 710. Cure, ap. 713, 714. In the small-pox, a favorable symptom to children, v. iv. p. 23. From dentition, ap. 1374. Cure, ap. 1376. p. 255.
- Cordials*, mistaken ideas of them, v. ii. ap. 672. When to be administered to women in labor, v. iv. p. 199.
- Corpulence*, a predisposing cause of apoplexy, v. iii. ap. 1010. p. 165.
- Corroborants*, proper in dropsical cases, v. iv. ap. 1250. p. 124. Their use in ricketty patients, v. v. p. 131.
- Costiveness*, attendant upon dropsies, v. iv. p. 108. To be avoided in pregnancy, p. 186.
- Cranium*, depression of, its effect upon the brain, v. i. ap. 267, 268. Method of treatment, ap. 270—3.
- Crisis*, what implied by it in inflammations, v. i. p. 260. The doctrine of crisis maintained, v. ii. p. 31 and 37. Critical symptoms, what? p. 94.
- Cure*, general idea of it, v. i. ap. 4. p. 3.
- Cupping glasses*, their powerful effects in flatulences, v. ii. p. 131. In phrensy, v. ii. ap. 781. p. 287.

D.

- Days*, critical (which) the question discussed at large, v. ii. p. 238.
- Decoctions* (mild, mucilaginous, acidulated) good in febrile heat, v. ii. p. 166. *Lenient*, their use in convulsions, ap. 713. p. 189. *Antiphlogistic*, their use in phrenites, ap. 781. p. 287.
- Degraaf*, stones found by him in the pineal gland, v. v. p. 51.
- Degner*, his observations upon vomits, v. ii. p. 203—5.
- De Haën*, instances of inflammation of the spleen from him, v. iii. p. 94.
- Delirium* in fevers, definition of, v. ii. ap. 700. Its causes, ap. 701. p. 173. Cure, p. 175.
- Delirerius*,

I N D E X.

- Deliveries*, difficult, v. iv. ap. 1310. From failure of strength, ap. 1311. From rigidity of the orificium uteri, ap. 1313. From tumors, ap. 1314. Narrowness of bones, ap. 1315. Death of fœtus, ap. 1318. Or position of, ap. 1320.
- Denys*, his remarks upon the stone, v. v. p. 50. p. 71.
- Diploes*, often deficient, v. i. p. 268.
- Disease*, general definition of it, v. i. ap. i. p. i. Different states and circumstances of the same disease to be attended to, p. 353. *Chronical*, their general causes, v. iii. ap. 1050. Particular causes enumerated, 1051, 1052.
- Dissections*, their use, v. i. ap. 12. p. 12.
- Diaphragm*, a principle instrument in vomitings, v. ii. p. 136. Inflammation of, why particularly painful, v. iii. p. 40.
- Diaphoresis*, its use in eruptive fevers, v. ii. p. 212.
- Diarrhœa*, matter evacuated by it various, its causes, v. ii. ap. 719. Diagnosis, ap. 720. Effects, ap. 721. Cure, ap. 722. Produced by apthæ, v. iii. p. 127. Its utility to lying-in women, v. iv. p. 218. Divided by Levret into critical and symptomatical, p. 220.
- Diemerbroeck*, his observations upon the lungs of a stone-cutter, v. ii. p. 329.
- Diet*, to be adapted to different ages and constitutions, v. i. p. 62. Proper to assist the digestion of wounds, ap. 192. p. 196. Mild diet recommended in diseases of the medullary parts of the bones, p. 454—8. Ulcerated lungs, v. iv. ap. 1208. p. 37.
- Diet*, vegetable, its use in the gout, v. iv. p. 155.
- Digestion*, first and second, what? v. i. p. 68.
- Diluents*, their manner of acting, v. i. p. 56. *Warm*, serviceable in the cold fit of a fever, v. ii. ap. 623. p. 99. Useful in flatulencies from acrid substances, ap. 650. p. 131. In diarrhœas, v. ii. p. 200. In the second stage of intermittents, ap. 763. Inflamed stomachs, v. iii. p. 91.
- Dimness* of sight, a symptom of an injured brain, v. i. 257.
- Discharge* (ichorous) how suppressed, v. i. p. 214.
- Diseases* (acute, febrile) enumerated, v. ii. ap. 770.
- Disposition*, hereditary cause of the dropfy, v. iv. ap. 1230. p. 107.
- Diuretics*, their signal use in dropfies, v. iv. ap. 1243. p. 120. Several formulæ recommended, *ibid.* Their power of dissolving stone, v. v. 86.
- Dodard*, his observations upon blood letting, v. i. p. 116.
- Douglas*, case of dropfical ovarium from him, v. iii. p. 73.
- Drinking*, inordinate, why the cause of trembling, v. ii. p. 103. Cold liquors, why generally pernicious in fevers, p. 117. Abstinence from, favourable to a cure of the dropfy, v. iv. 1249. p. 123.

Dropfies,

I N D E X.

- Dropsies*, from hard drinking, how treated, v. ii. p. 75. The Consequence of a diarrhæa, p. 200.
- Dropsy*, what? v. iv. ap. 1215. p. 53. Seat various, ap. 1216. In the head, ap. 1217. Chest, 1219. Distinguished from empyema, p. 63. Cure, *ibid.* In the lungs, ap. 1220. Aspera arteria, ap. 1221. Ovaria, ap. 1223. In the uterus, ap. 1224. In the subcutaneous fat, ap. 1225. In the region of peritonæum, ap. 1226. In the testicles, various species of, ap. 1227. General causes of dropsies, ap. 1228. Particular enumerated, ap. 1229. Progress of the disease, ap. 1230. p. 106. General indications of cure, ap. 1231. Particular, ap. 1232.
- Dyspnœa*, a bad symptom in the dropsy, v. iv. ap. 1230. p. 107.
- Dysenteries*, various, requiring opposite treatment, v. iii. p. 120. Causes of dropsies, v. iv. p. 103.
- Du Verney*, that the marrow contains nerves, and is sensible of pains, proved by him, v. i. p. 450. Instance from him of paracentesis in dropsies of the breast, v. iii. p. 66. Diagnostic signs of encysted dropsies, p. 86.

E.

- Eagles*, their food, v. i. p. 93.
- Ecchymosis*, definition of, v. i. ap. 324. the effect of constitution, p. 295.
- Eccoprotics*, defined, v. i. p. 201.
- Eggs*, the white of, proper nutriment for lax fibre, v. i. p. 26. The yolk, corrector of acidities in children, v. iv. p. 239.
- Emetici*, in what cases, pernicious in the gout, v. iv. ap. 1372. p. 148.
- Emollients*, their use and manner of acting, v. i. p. 141. Aswagers of pain, p. 221. Why good in feverish heats, v. ii. 169. Applied to the head in delirium, p. 176. Their use in the stone, v. v. ap. 1426.
- Emperics*, their doctrine, v. i. ap. 10. p. 9.
- Emprostotonus*, a species of epilepsy, v. iii. ap. 1088.
- Empysemæ*, the effect of a contusion, v. i. ap. 324.
- Emplastrum de ranis*, with mercury, powerful solvents of scirrhus tumours, v. i. 427.
- Empyema*, observations of Heister and Dion upon it, v. i. p. 282. Definition, v. iii. ap. 1183. Causes enumerated, ap. 1185. Signs of, ap. 1186—7. Effects, ap. 1188. Frequent cause of the dropsy, v. iv. p. 104.

Encephalon,

I N D E X.

- Encephalon*, compression of, produces signs of weakness, v. ii. p. 147.
- Encysted* dropsies, what? v. iii. p. 24. Seat of them, p. 85. Diagnostic signs of, *ibid*.
- Eus veneris*, its efficacy in curing the rickets, v. v. 132.
- Epidemic* diseases, how different from others, v. v. ap. 1404. p. 29. Require different treatment, ap. 1405. p. 31. Cause of this latent, 1406.
- Epilepsy*, definition of, v. iii. ap. 1071. Proximate cause, ap. 1072. Occasional cause, 1075. Effects, 1077.
- Epilepsy*, a fit of it, how prevented, v. i. p. 228.
- Epiphysis* of the bone; its separation the most difficult species of luxation, v. i. p. 32.
- Epithems*, in what cases useful, v. i. 389.
- Ephemera*, what? cause and cure, v. ii. ap. 728. p. 215.
- Erasistratus*, his objections to bleeding, v. i. p. 55.
- Error loci*, what understood by it? v. i. p. 122. Cause of obstruction, *ibid*. This fully explained, p. 134. It occasions the lymphatic vessels to admit red blood, p. 337.
- Eruptions*, the cause of fevers, v. ii. ap. 593. p. 41, 42. Their nature, ap. 723. Diagnosis, ap. 724. Cure, 725. Particular described, p. 212.
- Eruginous* matter, vomiting of, dangerous in phrensy, v. ii. 280.
- Erisipelas* from wounds in the head, an unfavourable symptom, v. i. p. 234. These eruptions described, v. ii. p. 209.
- Eruptions*, their cause, v. ii. ap. 646. Substances, which produce them, ap. 647. (see Flatulencies)
- Evacuations* profuse, causes of fevers, v. ii. p. 27. Causes of trembling, p. 102. Cause of dropsy, v. iv. p. 105. Suppression of usual, cause of palsy, v. iii. ap. 1060. Of epilepsy, p. 225. Spontaneous, its use to maniacal patients, v. iii. ap. 1125.
- Evacuants*, their use and manner of acting, v. i. p. 141.
- Exanthemata* (see Eruptions.)
- Excretions*, suspension of, in maniacal patients, v. iii. ap. 1122.
- Excrements*, putrid, the cause of thirst, v. ii. p. 115. How known, p. 116.
- Exercise*, its use, v. i. p. 20. To be gradually increased, p. 47. Violent, cause of nephritis, v. ii. ap. 994. p. 144. Its great advantage to pregnant women, v. iv. p. 184. To ricketty children, v. v. p. 130.
- Exhalations* aromatic, Correctives of humid air, v. ii. p. 67. Noxious in the air, frequent causes of epidemic diseases, ap. 1408. p. 35.

Exostosis,

I N D E X

- Exostosis*, what? whence arises the difficulty of cure, v. i. p. 465. Cause of an ankylosis, p. 473.
- Expectorations* in ardent fevers, serviceable, v. ii. p. 244.
its use in healing vomicas, v. iii. p. 39.
- Eyes*, the glands of, seat of scirrhus, v. i. p. 417. State of, indicating the nature of the disease, v. ii. 226. Dusty appearance, in phrenitis, bad, p. 281.

F.

- Fabricius de Aqua Pendente*, a case related by him, of absorption of extravasated blood in the thorax, v. i. p. 280.
- Faces*, indurated, cause of immoderate flow of lochia, v. iv. p. 211.
- Faintings*, Sign of pregnancy, v. iv. ap. 1296. How removed, p. 179. After delivery the cause of them, p. 208.
- Fat*, seat of obstinate inflammations, v. i. ap. 374. p. 334.
Fat dissolved, the cause of increase of fevers, v. ii. p. 167.
Curative indication, what? 167.
- Fauces*, shrinking of, in quinries, a fatal sign, v. ii. p. 291.
Inflammation of, in canine madness, v. iii. ap. 1140. p. 280.
- Fear* (sudden) a cause of catalepsy, v. ii. p. 188.
- Feet*, bathing and rubbing of, their use to reproduce the menstrual flux, v. iv. ap. 1291. p. 170. Bleeding in feet more serviceable than general bleeding, p. 171.
- Feet*, primary seat of the gout, v. iv. ap. 1254.
- Feet*, pain in, beneficial in phrenies, v. ii. p. 286. Sweating of, checked, cause of gout, v. iv. ap. 1256. p. 132.
- Femur*, internal luxations of, its pernicious consequence, v. i. p. 327.
- Fermentation* acid, tenacity destroyed by it, v. i. p. 85.
- Fernelius*, his ideas of a burn, v. i. p. 412. Instance from him of madness, by eating the flesh of a mad animal, v. iii. p. 274.
- Fever, hectic*, the effect of ulcerated lungs, v. iv. ap. 1206. p. 32.
- Fevers*, general idea of them, v. ii. ap. 558. Their variety of symptoms perplexing to the practitioner, ap. 560. p. 4. Characteristic symptoms, what? ap. 563. Various divisions of fevers, ap. 564—570. Concise definition of a fever, ap. 581. Causes of fevers, ap. 582 to 586. Singular causes specified, ap. 587. Effects of fevers, ap. 587. Progress of, 590. Termination of Fevers, ap. 591 to 596. Prognostic, ap. 596. The general Cure of fevers, ap. 598.
By

I N D E X.

- By diet, ap. 602. By removing the cause, ap. 604. Moderating its degrees, ap. 609, 610. Their pernicious or salutary effects, p. 2.
- Fevers, distinct*, v. ii. ap. 728. *Continued fevers*, what? ap. 728. p. 214. *Putrid fevers*, what? ap. 730. Diagnosis, ap. 731—2. Prognosis, ap. 733—5. Cure, ap. 736. *Ardent fevers*, symptoms of, ap. 739. Cause, ap. 740. Progress, ap. 741. Prognosis, ap. 741. Cure, ap. 743. *Intermittent fevers*, its classes, ap. 746—7. Progress of symptoms, ap. 749—752. Effects, ap. 753, 754. Their proximate cause, what? ap. 755. p. 263. *passim*. Cause, ap. 752. Various according to circumstances, p. 265. Corollaries, ap. 769. *Autumnal fever*, its symptoms, ap. 747. p. 255. Cure, ap. 767. Milk fever, v. iv. p. 213.
- Fibre*, a simple solid fibre, what? v. i. ap. 21. p. 18. Weak fibre, what? ap. 24. p. 20. ap. 29. p. 32. Antecedent causes specified, ap. 25. p. 21. Its effects, ap. 26. p. 23. Cure, ap. 28. p. 24.
- Fibres*, rigidity of, described, v. i. ap. 31. Its cause, ap. 32. Effects, ap. 33. Exemplified, ap. 34. Their cure, ap. 35.
- Fibres*, their tendency to contraction, v. i. p. 30. Exemplified in a case, *ibid*.
- Filaments* in urine, sign of stone in bladder, v. v. p. 69.
- Fire*, increased collection of, the cause of febrile heat, v. ii. ap. 674. Its utility and noxious influence in epidemic diseases, v. iv. p. 34.
- Fissure* of the cranium described, v. i. p. 241. Various kinds of fissures, *ibid*. Why more dangerous than contusions, p. 249.
- Fistulas*, why chiefly in the rectum, v. i. p. 366. Their nature, ap. 413. Different from sinus, p. 370. Cure, ap. 415.
- Fits* (Epileptic) in children; caused by acid acrimony, v. iv. p. 241.
- Flatulences*, their cause, v. i. ap. 63. v. ii. ap. 646—648. Substances which produce them, ap. 647. Effects of, ap. 650. Diagnosis, ap. 651.
- Fluids*, their simple and spontaneous diseases, v. i. ap. 567.
- Fluids*, various, according to different kinds of food, v. i. ap. 77, 78, p. 89, 90. Their putrescency, ap. 80—82. Morbid, what? p. 120. Viscidity of, one cause of obstruction, p. 122. Their spherical figure necessary, this explained, p. 131.
- Fetus*, its amazing growth in the womb, v. i. p. 60.
- Fomentations*, their use in contusions, v. i. p. 303. Applied to the hypocondria relieve thirst, v. ii. p. 117. Useful in inflamed intestines, v. iii. p. 102.

Food,

I N D E X.

- Food*, animal and vegetable antacrescent, specified, v. i. p. 73.
 89. Inducing fevers from its quality or quantity, v. ii.
 p. 21. *Food*, animal, supposed by Dr. Lobb; to generate
 the stone, v. v. p. 54.
Fracture of the skull, what? v. i. p. 241. Different species
 of fractures defined, ap. 339. ap. 341. p. 307. Effects
 various, ap. 342. p. 308, 311. Cure of, ap. 346, 358.
Diagnosis of compound fractures, ap. 344. p. 311. Of ob-
 long fractures, ap. 345. p. 316. Prognosis, ap. 346. p. 313.
Transverse fracture, the most favourable to cure, p. 313.
 Oblong the most difficult, p. 313.
Frictions, with aromatics, their use in relaxed fibres, v. i. p. 28.
 In spontaneous gluten, p. 86. In resolving obstructions,
 p. 147, 156. When useful in contusions, p. 304. In
 convulsions, v. ii. ap. 713. p. 189. Useful in dropsies,
 ap. 1235. p. 113. In the rickets, v. v. p. 130.
Fumes, acid, powerful resolvens of recent scirrhus, v. i. p. 426.
Functions, vital, natural, animal, what? v. i. p. 2. Injur-
 ed by a putrid state of blood, p. 96.
Fungus arising from the trepan, how treated, v. i. p. 271.

G.

- Galen*, his defence of bleeding, v. i. p. 55. Ligatures in
 wounds used by him, p. 212. His observations upon crisis,
 v. ii. p. 32. Continual fevers, p. 219. Intermittents,
 p. 565. Upon the seat of the pleurisy, v. iii. p. 6.
Gall stones, one cause of jaundice, their passage promoted,
 v. iii. p. 76. passim.
Gangrene, what? v. i. ap. 388. Symptoms of approaching
 gangrene, p. 347, 348. Applications productive of gan-
 grene, ap. 389. More particular definition of gangrene,
 ap. 419, p. 374. Seat of, ap. 470. Causes of, ap. 421,
 426. Signs of, ap. 427. Prognosis, ap. 431. Gan-
 grene of parts contiguous to the lungs, v. iii. ap. 299. How
 known, ap. 903. Treatment, ap. 903.
Gargle, one recommended in the watery cankers, v. i. p. 385.
Cooling, their use in phrenetis, v. ii. ap. 781. p. 287. In
 quinies, ap. 809. p. 312.
Gaubius, instance of a gouty case from him, v. iv. p. 154.
Genitals, gangrene of, difficult to cure, v. i. p. 386.
Ghisi, remarkable instance from him of the effect of cold
 water, v. iv. p. 17.
Glands, pinguinal, swelling of it in the small pox, v. v. p. 23.
Pineal, stoney concretions found in it, p. 51.

Glisson

I N D E X.

- Glisson*, the rickets first observed by him in England, vol. v. p. 121.
- Glysters* (cooling) their efficacy in reducing the force of fevers, v. ii. p. 86. *Acrid*, when useful to remove spasms. p. 132. *Emollient*, their use in delirium, p. 175. and in convulsions, ap. 713. p. 189.
- Gonorrhœa*, general cure of, ap. 1458. In women, ap. 1465. Particular symptoms how treated, ap. 1460. p. 104. passim.
- Gout*, the frequent cause of dropsy, v. iv. p. 104.
- Gout*, what? v. iv. ap. 1254. p. 129. Subjects of it, ap. 1255. p. 130. passim. Cause of, ap. 1266—8. Previous symptoms, 1257. Causes accelerating the paroxysm, ap. 1258. Progress of the symptoms, ap. 1259. Proximate cause seated in the nervous fluids, ap. 1262. Causes enumerated productive of this vitiated state, ap. 1268. Diagnostics respecting the cure, ap. 1268. Effects of the gout, different according to the part it attacks, ap. 1273. Why so difficult of cure, p. 151. Tophaceous gout the most difficult, ap. 1277. p. 159. Violent pains how alleviated, ap. 1278. Corollary, ap. 1282.
- Guaicum* (wood) recommended in decoction, in diseases of the bones, v. i. p. 454. In the venereal disease, v. v. p. 119.
- Gullet*, palsy of, soon fatal, v. iii. ap. 1062. p. 211.

H.

- Hæmorrhages*, various, methods of suppressing them, v. i. p. 210, 211. How suppressed in amputations, ap. 471. *Hæmorrhage* from the nose in ardent fevers, critical, v. ii. p. 237. Prognosis of this, ap. 741. p. 237. How stopt when violent, p. 252.
- Hæmoptoe*, from the lungs, how distinguished, v. iv. p. 3. Its Causes specified, *ibid.* Produced by suppression of usual evacuations, ap. 1198. N°. 4. By violent action of the lungs, *ibid.* By acrid food, *ibid.* p. 13. Concomitant signs of, ap. 1199. Cure, 1200.
- Hæmorrhoids*, beneficial in phrensies, v. ii. p. 86.
- Hair* falling off, a hectic symptom, v. iv. p. 35.
- Hales* (Dr.) his experiments upon elastic air, v. ii. p. 82.
- Havers*, the thyroid gland proved by him to be porous, v. i. p. 334. His account of the oil vesicles, p. 449.
- Head*, wounds of the head, v. i. ap. 239. Of the integuments, ap. 240. Why and when dangerous, ap. 241. The effects of humours confined in the wound, p. 244. Cure of superficial wounds of the head, ap. 245. to 248. Carious state

I N D E X.

- state of the bones, ap. 249. Cause and effects of caries, in the pericranium, ap. 250, 251. Cure of carous bones, ap. 252. Alarming symptoms of danger, from wounds in the head, p. 232. N^o. 3.
- Heart*, cause of its more frequent contractions, v. i. p. 107. Quick action of, proximate cause of fevers, v. ii. ap. 573. Palsy of heart soon fatal, v. iii. ap. 1062. p. 211.
- Heat*, the effect of attrition, v. i. p. 109. Dissipates the fluids, ibid. Moderate heat necessary to produce suppuration, ap. 401. p. 262. Various degrees of it in fevers, with diagnostics from hence, v. ii. ap. 579. p. 15. Febrile heat, how known, v. ii. ap. 673. Proximate and occasional causes, ap. 674. to 689. Effects of, ap. 689. Cure, ap. 691. Diagnosis, ap. 698. Feverish heat after meals explained, p. 158. Heat the cause of putrefaction, p. 171. The heat in putrid fevers explained, p. 218. Intenseness of heat in ardent fevers, ap. 735. p. 231. Its use in dropical cases, v. iv. ap. 1248. Sultry, the cause of fevers, p. 25.
- Heister*, on the empyema, v. i. p. 282.
- Hellibore* (black) a powerful remedy in apoplexy, v. ii. p. 179.
- Helmond*, crisis in fevers objected to by him, v. ii. p. 32.
- Hemiplagia*, what? v. ii. p. 213.
- Hepatitis*, what? v. iii. ap. 914. Seat, ap. 915. Its general and particular causes, ap. 916. Its effects, ap. 917, 918. Termination, ap. 119. Cure by resolution, ap. 921, 922. By excretion of morbid matter, ap. 923. Signs of suppuration, ap. 935. Effects from, ap. 936. Palliatives and cure, ap. 942. Diagnosis and prognosis, ap. 950.
- Herbs* emollient, their use in diarrhæas, v. ii. p. 202.
- Hervy*, curious observation of his, concerning incubation, v. i. p. 26.
- Hildanus*, instance from him of perpetual stupor, from a depressed cranium, v. 250. His remark upon fractures of the os femoris, p. 314. Of the efficacy of acids with farinaceous gums in scirrhus tumours, p. 426. Of a volvulus in the colon, v. iii. p. 100. Instance of dropsy in the womb, v. iv. p. 75.
- Hoffman*, his observations upon the action of cold water, v. iii. p. 17. Upon human calculi, v. v. p. 55.
- Holler*, his ideas of critical days, v. ii. p. 32.
- Houssoun*, case of cure in dropsy of the varium from him, v. iv. p. 75.

I N D E X.

- Honey*, its resolving quality in inflammations, v. i. p. 357.
 Diluted and acidulated, good in febrile heat, v. ii. p. 168.
 An anthelmintic, v. iv. p. 250.
- Humours*, when said to be crude, v. i. p. 67. *Acid*, whence, ap. 60. Whether generated in the body, p. 67. The agitation of stagnated humours, the effect of fevers, v. ii. ap. 587. p. 30. Instanced in the bile, fat, &c. p. 34.
- Hunger*, productive of fevers, v. ii. p. 26. How long sustained, p. 27.
- Hydatids* defined, v. i. p. 124. Formed in the lungs, v. iv. ap. 1220. p. 67.
- Hydrocele*, three kinds of, v. iv. ap. 1227. p. 96. Cure, *ibid*.
- Hydrocephalus*, seat of, v. ii. ap. 12, 17. Instances of it from various authors, p. 56. Chiefly a disease of children, *ibid*. Cure, ap. 1218. p. 58, 59.
- Hydrophobia*, see canine madness.
- Hypochondriac* passion, its cause, v. iii. ap. 1098. Cure, 1101.
- Hippocras* wine, its nutritive quality.
- Hypocrates*, his opposition to the sentiments of Erasistratus concerning bleeding, v. i. p. 55. Observations of his, relative to the petuita alba, p. 83. Labor, p. 116. The illiac passion, p. 174. Acid eructations, p. 100. Heat of the blood, p. 109. Ardent fevers, p. 109. Extravasated blood, p. 180. The causes of convulsions, p. 226. Plenitude and repletion, p. 229. Wounds in the head, p. 232. N° 4. p. 231, 243, 244. Concussion of the brain, p. 256. Application of the trepan, p. 268. Wounds of small intestines, p. 289, 291. The time required to form a callus, p. 321. Luxations, p. 324. Cold applied to inflamed parts, p. 349. Drinks administered to his patients, p. 357. His idea of an abscess, p. 360. Remarks upon the salutary effects of fevers, v. ii. p. 2. Instance from him of the fatal effects of drinking, p. 275. Effects of hunger, p. 27. Fevers, p. 33. Formation of abscesses after fevers, p. 45. Critical sweats, p. 47. Vomiting, p. 49, 139. Urine, p. 50. Aliments in fevers, p. 58. Repletions and evacuations, p. 148. Convulsions, p. 188. Prognostics from alvine alis changes, p. 197. From eruptions, p. 208. Erysipelas, p. 209. Indications of danger from respiration, p. 221. Lassitudes, p. 222. Urine, eyes, countenance, &c. 222. *passim*. Upon critical days, p. 241. Prognostics in phrenetes, p. 283. Quinsies, ap. 819. Observations on peripneumony, p. 333. Signs of phthisis pulmonalis from him, v. iii. p. 27. Cure of inflamed intestines, p. 104.

Jaundice,

I N D E X.

I.

- Jaundice*, various species of, v. i. ap. 950. p. 70. *paTm*.
Description of a periodical one, p. 76.
- Ichor*, pustules full of, the pathognomonic sign of gangrene, v. i.
p. 380.
- Illiack* passion, the effect of scirrhus tumors in the intestines,
v. i. ap. 486. p. 422. Produced by vomiting, v. i. p. 139.
And other causes, v. ii. p. 118.
- Imagination* of pregnant women, cause of epilepsy, v. ii. ap.
1075. p. 224.
- Impostume*, signs of its forming in the lungs, v. ii. ap. 893.
(See abscess.)
- Incubus*, the forerunner of apoplexy, v. iii. p. 172.
- Infants*, food most proper for them, v. i. p. 62. Why sub-
ject to acidities, p. 68. Signs of their death in difficult
labors, v. iii. ap. 1318.
- Inflammations*, the consequence of luxations, v. i. p. 325.
- Inflammations*, definition of, v. i. ap. 370. Seat of, ap. 372,
374. Causes of, ap. 379. Effects or signs of inflammation,
ap. 381. to 386. Terminated by *resolution*, ap. 386. p. 344.
By *suppuration*, ap. 389. p. 346. *Gangrene*, ap. 388. p. 347.
Scirrhus, ap. 392. Prognosis, ap. 393. p. 352. Cure,
ap. 394, 400. Inflammations causes of scirrhus, ap. 485.
p. 418. Effects of scirrhus, p. 422.
- Injections* (opiate) their use in diarrhæas, v. ii. p. 105. The
return of injections a proof that the thorax is not penetrated
by a wound, v. i. p. 275. Their use to dilute the extra-
vasated blood, p. 281.
- Ink*, mixt with oxycrate, recommended by Parey for a slight
burn, v. i. p. 412.
- Intestines*, wounds of, not always mortal, v. i. ap. 314. p. 289.
Treatment of, ap. 315. Prolapsed, how returned, ap.
316. p. 290. Inflammations of intestines, v. ii. ap. 959.
Causes of, 959. Effects from, ap. 960. How distin-
guished from other diseases, ap. 962. Cure, 964. Ab-
scess in, how treated, ap. 965, 966. Gangrene of, how
known, ap. 969. Scirrhus, ap. 971. Smaller intestines,
chief seat of inflammations, p. 96. Inner coat of, voided
by stool, ap. 965. p. 109.
- Ipecacuhana*, its use in diarrhæas, v. ii. p. 204.
- Iron*, found in human caculi, whence derived, v. v. p. 57.

I N D E X.

Irritation of the brain and nerves, produced by acrid substances in the stomach, v. i. p. 72.

Itching, produced by sharp humours, v. i. p. 71.

K.

Kanker (watery) what? that frequent in the low countries described, v. i. p. 385.

Keil, his observations upon perspiration, v. ii. p. 22.

Kissing, the hydrophobia communicated by kissing a mad animal, v. iii. ap. 1186. p. 273.

Knee, the principle seat of an anchylosis, from inspissation, v. i. p. 471.

L.

Labour, difficult, the consequence of scirrhus tumours, v. ii. ap. 486 p. 42.

Lamellæ of the bones, what? v. i. p. 446. How rendered carous? p. 466.

La Motte, cautions from him, concerning bleeding pregnant women, v. iv. p. 188.

Lancisi, his account of an aneurism, v. i. p. 182.

Lapidescent substances, the causes of scirrhus, particularly in the mesentary glands, v. i. p. 420.

Lead, lytharge of, a proper sedative in scirrhus tumors, v. i. p. 431.

Leeuwenhoek, curious observations of his, concerning the circulation in the wing of a batt, v. i. p. 145.

Lemery, his sentiments concerning native acids, v. i. p. 67.

Lentor, natural to the human fluids, v. i. p. 77. What implied by it, v. ii. ap. 588. p. 35. How remedied, p. 80, 82. Of two kinds, pituitous and inflammatory, v. ii. p. 46.

Leucophlegmatia, distinguished from an anasarca, v. i. p. 83. Its effects upon the animal spirits, ibid. Leucophlegmatia the consequence of a diarrhæa, v. ii. p. 200.

Levet, his remarks upon the diseases of pregnant women, v. iv. p. 196.

Lientery, a frequent cause of dropsy, v. iv. p. 104.

Ligaments, broken or relaxed, the cause of luxations, v. i. ap. 348. p. 324, 359.

Ligaments, stiffness of, cause of anchylosis, v. i. ap. 556. Cure, 473.

Ligatures

I N D E X.

- Ligatures* of the limbs, their use in uterine hæmorrhages, v. iv. p. 195.
- Lime* water, its uses in the scurvy, v. i. p. 71. Its solvent power, in the stone, v. iv. p. 84.
- Lips*, cancers in them, without preceding schirrus, v. i. p. 436. Difficult to cure, p. 437.
- Liquors*, fermented, their pernicious effects, v. ii. p. 74. How relieved, *ibid.* *Cold*, suddenly drank, a cause of pleurisy, v. iii. p. 10. Of dropsy, &c. v. iv. ap. 1229. p. 103.
- Lithargy*, in what different from apoplexy, v. iii. ap. 1049.
- Lithotomy*, when necessary to be performed, v. v. p. 92.
- Lithontriptics*, considered at large, v. iv. p. 80.
- Listre*, concerning the seat of the tympany, v. iv. p. 89. Diagnostic signs of dropsy in the peritonæum, p. 81.
- Lixivium*, the formula of one recommended to stop the progress of a morification, v. i. p. 401.
- Lobb*, vegetable diet recommended by him in the gout, v. iv. p. 155.
- Lochia*, immoderate flow of, their cause, v. iv. ap. 1325. Cure, ap. 1325, 6. Retention of, ap. 1328. Its effects, ap. 1329. p. 212. Cure, ap. 1331.
- Lower*, his experiments to ascertain the cause of dropsies, v. iv. p. 99.
- Lues venerea*, its origin, v. v. ap. 1440. How communicated, ap. 1441. How known, ap. 1444. Progress of the disorder, ap. 1445. p. 95. *passim*, to 58. Cure, ap. 1458.
- Lumbago*, what? v. v. ap. 1494.
- Lungs*, suppuration of, how known, v. ii. ap. 833—836. Its effects, ap. 853. Scirrhus lungs the effect of inflammation, ap. 843. Adhesion of, to the pleura, consequence of inflammation, p. 351. Oppilation of lungs, the cause of death in a pleuritic patient, v. iii. p. 13. Abscess of, (see abscess.) Gangrene of, signs enumerated, ap. 901. Palsy of, soon fatal, ap. 1062. p. 211. Dropsy of, instances enumerated, v. iv. p. 67. *passim*.
- Luxations*, what? v. i. ap. 358. Causes external or internal, ap. 361, 362. Consequences of, ap. 364. Diagnosis, ap. 365. Prognosis, 366. Cure, 367.
- Lymphatics*, the seat of hydatids, v. iv. p. 85.

M.

- Madness* (canine) v. iii. ap. 1129. Communicated by other animals, 1130—1132. Cause, ap. 1134. Symptoms of incipient

I N D E X.

- incipient madness, ap. 1135. Means of communication, ap. 1136. Sometimes lies dormant, ap. 1137. Instance of madness given, p. 276. Progress of the disease, ap. 1138. Prognosis, ap. 1137. Appearances after death, ap. 1131. Cure, ap. 1141. Seat of the disorder, ap. 1142. Prophylactic cure, ap. 1143. Therapeutic, ap. 1144.
- Mallock*, instance from him of dropsy in the lungs, v. iv. p. 67.
- Malpighi*, his observations upon polypous concretions, v. i. p. 53. Upon the bones, v. i. p. 446. Experiments upon elastic air, v. ii. p. 133.
- Mania*, definition of, v. iii. ap. 1118. Different from melancholy, ap. 1119. How treated, ap. 1120. Mania, from weakness, ap. 1125. In strong persons, how cured, ap. 1127.
- Masallus Donatus*, instance from him of a remarkable cure of the epilepsy, v. iii. p. 284.
- Marasmus*, a consequence of luxation, v. i. p. 325. From the amputation of a large limb, how prevented, p. 405.
- Marrow*, the construction of its vesicles from *Havers*, v. i. p. 449. Nerves in it, p. 456.
- Matter*, morbid, its concoction, what? v. ii. p. 81. Its deposition the cause of disease, p. 41. The consequence of fevers, p. 44. Translation of the cause of palsy, v. iii. ap. 1060.
- Matrasses* (aromatic) their use to rickety patients, v. v. p. 129.
- Mauriceau*, hints from him relative to diseases of pregnant women, v. iii. 177.
- Mead*, his division of the small pox, into simple and malignant, v. v. p. 9.
- Mealy* substances, their use in rigid fibres, v. i. p. 36.
- Mats* (salt) cause of scurvy, v. iii. p. 297.
- Meconium*, retention of, bad effects produced by it, v. iv. ap. 1344. Its remedy, ap. 1346—8.
- Medical* essays, an instance from them of the good effects of sneezing, v. i. p. 254.
- Medicines*, what necessary to be known concerning them, v. i. ap. 5. p. 5. Act differently in sickness or in health, ap. 6. p. 6. When productive of fevers, v. ii. p. 20. Corroborants best in a solid form, v. ii. p. 204.
- Meditation* (profound) the cause of catalepsy, v. iii. p. 189.
- Melancholy*, definition of, v. iii. ap. 1089. Proximate cause ap. 1090. Occasional cause, 1093. Morbid changes in the body produced by it, ap. 1094. Cure, ap. 1097. Its effects, 1109.

Membranes

I N D E X.

- Membranes* lining the lamella of the bones proved, by Ruysch's injections to be vascular, v. i. p. 446.
- Menstrual* flux, suppression of, cause of scirrhus, v. i. p. 420. Productive of fevers, v. ii p. 22. Reproduction of, its use in deliria, v. ii. p. 77. Expended in the enlargement of the uterus, v. iv. p. 176. Menfes, obstruction of, particularly considered, ap. 1284, 85. Præternatural discharge of, ap. 1286. Diagnosis of, obstructions in virgins, ap. 1291.
- Mercury*, its chymical properties and medical virtues, v. i. p. 150. Solution of mercury in aqua fortis, recommended to stop the progress of mortification, p. 400. Mild preparation of mercury, powerful solvents, p. 427. Sedatives, p. 431. Mercury recommended in bites of a mad animal, v. iii. p. 290. How far useful in the scurvy, p. 314. Recommended as anthelmintics, v. iv. p. 252. Its specific virtues in various disorders, v. v. ap. 1392. p. 13. *Mercurius dulcis*, its efficacy in suppressing the small pox, p. 13. *Corrosive sublimate*, its virtues in venereal and other complaints, p. 114.
- Metalic* bodies, whether serviceable in intromissions of the bowels, v. iii. p. 105.
- Metastasis*, pleurisy cured by it, v. iii. p. 18.
- Milk, human*, its nutritive quality, v. i. p. 25. Found in males, ibid. Most perfect four or five hours after eating, p. 26. A subtile spirit in it, p. 26. Acescent coagulating, p. 71. Its effects, p. 72. Nutritious in febrile weaknesses, v. ii. p. 149. *Asses* milk recommended in an abscess of the kidneys, v. iii. p. 151. Instance of a kind of milk drawn by tapping, v. iv. p. 84. Milk, its use to gouty patients, p. 156. Metastasis of, in child-bed women, p. 215. Effects of its stagnating in the breasts, ap. 1334. Cure, 1336. Copiousness of, how remedied, ap. 1339.
- Monro*, observations from him concerning the exfoliation of a bone, v. i. p. 405.
- Morand*, instances from him of a paracentesis, v. iv. p. 66. His opinion concerning encysted dropsies, p. 84.
- Mortification*, removal of a mortified part to vary according to circumstances, v. i. ap. 458. The progress of mortification how prevented, ap. 460, 462.
- Morton*, the bark recommended by him in an hæmoptoe, v. iv. p. 15.
- Motion*, muscular, circulation quickened by it, v. i. p. 107.
- Mouth*, gangrene in, difficult to cure, v. i. p. 385. Seat of scirrhus, p. 417.

I N D E X.

- Moxa*, burning of, its use in flatulencies, v. i. p. 131.
Mucus, a substance generated after wounds in the head, proved to be vascular, v. i. p. 240. Mucus of the body, what, v. ii. p. 194. Evacuated in diarrhæa, *ibid.* Stones supposed to be generated from it, v. v. p. 52. Mucus white, heavy in the urine, a sign of stone in the bladder, ap. 1423. p. 73. Proofs that it differs from pus, p. 75. A remarkable instance of a copious discharge of it, p. 77.
Mum (Brunswick) its strengthening properties, v. i. p. 73.
Muscles, contusion of, injury induced by it, v. i. ap. 326. p. 297.
Muscles, poisonous, their effects and cure, v. ii. p. 208.
Musk with cinnabar, used by the Chinese for the cure of canine madness, v. iii. p. 290.

N.

- Narcotics*, applied to inflamed parts, hurtful, v. i. p. 350. When useful in flatulencies, p. 132. Gentle narcotics described, p. 184. To be given with caution in the gout, v. iv. p. 109.
Nausea, its various causes, v. ii. ap. 642. Effects, ap. 643. Cure, ap. 644. Diagnosis, 644. Nausea from acrid humours, p. 120. From glutinous mucus and worms, p. 121, 122. From the inordinate motion of the animal fluids, p. 122. Cured by subacids, diluents, emetics, aromatics, narcotics, 124, 125. In what cases incurable, p. 127.
Neck, luxation of its vertibræ, productive of paralytic quinities, v. ii. p. 323.
Needles, description of those proper for the making of sutures, v. i. ap. 214.
Nephritis, what? causes of, ap. 994. Effects, ap. 995. Natural cure of, ap. 996. Artificial, ap. 997.
Nerves, inflamed, pain violent, v. i. p. 139. Punctured, remarkable effects produced by it, ap. 181. p. 186. Their Construction, p. 166. Office, 167. Consequence of a puncture of them, *ibid.* ap. 180. Arguments in favour of a nervous fluid, p. 186. Proved to be the seat of pain, p. 215. Injuries induced by the contusion of nerves, ap. 326. p. 297. Nerves supposed to be seat of intermittents, v. ii. p. 266. Vitiating state of the nervous fluids, supposed to be the proximate cause of the gout, v. iv. ap. 1263. p. 140.
Nipples, fissures in, how treated, v. iv. ap. 1338.
Nitre, of the ancients, what? v. i. p. 149. Of the moderns, its properties and medical virtues, p. 150. Its attenuating quality,

I N D E X.

- quality, p. 357. Its cooling and attenuating quality, v.iii. ap. 605. p. 65. Its utility in fevers, p. 90. Spirits of nitre dulcified, its diuretic qualities, p. 87.
Nose, itching of, a sign of worms, v. iv. p. 244.
Nostrils, glands of, seat of scirrhus, p. 47. Bleeding from a dangerous symptom in dropsies, v. iv. p. 109.
Nucleus of a stone, what? v. v. ap. 1419. p. 49. Diversity of its colours, ap. 1420.
Numbness, the consequence of luxation, v. i. ap. 343. p. 324.

O.

- Obstruction* defined, v. i. ap. 107. Proximate cause, ap. 108. Remote cause, ap. 109, to 120. Effects of, 120. ap. 123. Diagnosis, 123. Cure according to the different causes, ap. 124, to ap. 144.
Occiput, wounds in, why so dangerous, v. i. p. 272.
Oecephagus, scirrhus of, v. ii. p. 303.
Oedematous tumours defined, v. i. p. 124. Arising from wounds in the head an unfavourable sign, p. 234.
Oils, their softening power, v. i. p. 32. Their use in relaxing spasms, p. 36. A remedy against acrid poisons, p. 74. Oil, boiling, three times hotter than boiling water, p. 409. *Medullary*, subject to diseases, ap. 526. p. 451. Diagnosis, ap. 527. p. 453. Prognosis, ap. 528. p. 449. Cure, ap. 529. Linseed oil, its efficacy in the illiac passion, v.ii. p. 82.
Ointments, used by the ancients to moderate sweating, v. ii. p. 193.
Omentum, prolapsed, treatment of, v. i. ap. 318, 319. Fatness of, cause of hepatitis, v. iii. ap. 916. p. 444. Seat of inflammation, p. 95. Putrifaction of omentum, cause of tympanum, v. iv. p. 92.
Ophthalmia, an instance of the doctrine of error loci, v. i. p. 337.
Opiates, their use after deliveries vindicated, v. iv. p. 210. Seldom necessary for infants, ap. 1351. p. 236.
Opisthotonus, a species of epilepsy, v. iii. ap. 1038.
Orthopnoea, one sign of blood being extravasated in the thorax, v. i. p. 279.
Ovaria, substances found in them, v. iv. p. 73. Seat of dropsey, *ibid.* How known, p. 74.

P

- Petichial* eruptions, description of, v. ii. p. 210. When fatal, *ibid.*

Pain,

I N D E X.

- Pain*, definition of it, v. i. p. 215. Proved to be perceived in the sensorium commune, *ibid.* How obtunded or increased, *ibid.* Pain cause of it, ap. 224. p. 219. Effects of, ap. 226. Removal of cause, ap. 228. Of effects, ap. 229. Pungent burning pain a pathognomic symptom of a cancer, p. 437. Pains after pains, their cause, v. iv. p. 208. How mitigated, ap. 1324. Pain violent in the back, &c. a bad prognostic in the small pox, v. v. p. 7. In soles of the feet, how remedied, p. 23. Pain in making water, a sign of stone in the bladder, v. v. p. 72.
- Paleness*, a sign of extravasated blood in the thorax, v. i. p. 280. N^o. 8.
- Paleness*, a symptom of spontaneous gluten, v. i. p. 82. The cause of paleness, v. ii. p. 12.
- Parley*, following injuries of the head, v. i. p. 252, 258.
- Parley*, definition of, v. iii. ap. 1057. Proximate cause, ap. 1058. Remote causes, ap. 1059. Different degrees of, 1061. Correspondent effects, ap. 1062. Prognostics, (*ibid.*) Cure of, ap. 1064. to 1071.
- Pancras*, sometimes the seat of inflammation, v. iii. p. 94.
- Panniculus adiposus*, the chief seat of inflammations, v. i. p. 368.
- Paracentesis*, what? its use in dropsies of the chest defended, v. iv. p. 65. In what case to be performed, p. 281. N^o. 5. How performed, v. ii. ap. 1191. Particular directions concerning the manner of performing the operation, v. iv. ap. 1239—40. p. 117.
- Paraphrenitis*, what? v. iii. ap. 907. How known, ap. 969. p. 38. Danger, 910. Cure, 911.
- Paraplegia*, what? v. iii. p. 213.
- Parapoplexia*, what? v. iii. ap. 1013. Cause of apoplexy, p. 167.
- Parietal* bone, wounds in, why dangerous, v. i. p. 272.
- Parotiditis*, a consequence of the suppuration of the lungs, v. ii. p. 348.
- Parey* (Ambrose) ligatures in amputations first introduced by him, v. i. p. 212. Instance from him of the good effects of copious bleeding to promote the reabsorption, p. 268. Of the emphysemata, p. 278.
- Passions* of the mind, their effect in quickning the circulation to be attended to in diseases, v. i. p. 106. Why the cause of trembling, &c. v. ii. p. 102. Causes of flooding and abortions, v. iv. p. 191.
- Pediluvia* their use in convulsions, v. ii. ap. 713. p. 189. In the phrenetic, ap. 781. p. 287. In bastard peripneumony, ap. 873. p. 381.

Pelicle

I N D E X.

- Pelicle*, the tough pelicle upon the blood in inflammatory diseases, various conjectures concerning its nature, v. i. p. 343.
- Perforations of bones in the skull, how performed, v. i. ap. 262. Its advantages, ap. 266. When adviseable in diseases of the bones, p. 455.
- Pericardium*, dropsy of, how known, v. iv. ap. 1220. p. 67.
- Pericragium*, the injuries it receives from wounds, v. i. p. 245. Not always to be laid open in fractures, p. 246.
- Periostium* (external) inflammation of, v. i. ap. 534. p. 457. Incision into, when to be made, p. 458. Signs of an abscess in, ap. 535, 536. Cure, ap. 538. Signs of gangrene, ap. 539, 540. p. 460. Treatment of gangrenous part, ap. 542.
- Periostium*, internal, inflammation of, v. i. ap. 543. Diagnosis, ap. 545. Cure, 546. Gangrene of, ap. 548. General causes of this disease, ap. 549. p. 464.
- Peripneumony* (bastard) what? v. ii. ap. 867. To whom peculiar, ap. 871. Its danger, ap. 871. Cure, 873.
- Peristaltic* motion, the increase of, the cause of a diarrhæa, v. ii. p. 196.
- Peritonæum*, seat of dropsy, v. iv. ap. 1226. Diagnostick signs of it enumerated, p. 81, 82. Its long duration and treatment, ibid.
- Penis*, inflammation of, how treated? v. v. ap. 1460. p. 104. Phymosis of, how treated? v. v. p. 105.
- Petit*, his opinion of the styptic areana, v. i. p. 211. Instance of the cure of an anchylosis by him, by the application of lime water and a lixivium of sal ammoniac.
- Perspirable* matter, retention of, productive of fevers, v. ii. p. 20.
- Perspiration*, all fevers not cured by it, v. ii. p. 46, 47.
- Pervigilium* (see watch ng.)
- Phthisis* pulmonalis (see consumption.)
- Physic*, what is implied in the practice of it, v. i. ap. 2. p. 2.
- Physician*, what is required of him, v. i. ap. 12. p. 13.
- Piles*, the reproduction of, its use in delirea, v. ii. p. 177. Blind piles, what? v. iii. p. 101. Suppression of, productive of phthisis v. iv. ap. 1198. p. 6. The effects of pregnancy, p. 187.
- Plague*, how prevented by the ancients, v. ii. p. 67. To be attributed to the state of air, v. v. p. 35. Sometimes removed by noxious effluvia, p. 36.
- Plants*, which alcalescent, v. i. p. 88.
- Plasters*, their general use in wounds, v. i. p. 205. Sticking plasters proper to approximate wounds, ap. 207. Applied to

I N D E X.

- to the head to discover the seat of a wound, p. 261. Aromatic plasters useful in recent scirrhus, p. 426.
- Pledgets*, to be frequently applied to cancers, v. i. p. 441.
- Plethora*, definition of it, v. i. ap. 106. (α) Its causes, (β γ) Effects, (δ). Diagnosis, prognosis, cure, (ε) p. 118. Plethora distinguished from cachochimy, p. 114. Of two kinds, *ibid*.
- Pleura*, adhesion of, appearances produced by it in wounds of thorax, v. i. p. 276.
- Plexus choroideus*, stony concretions formed in it, v. v. p. 51.
- Pliny*, a disease similar to the scurvy mentioned by him, v. iv. p. 294.
- Polypous* concretions, how produced by rigid vessels, v. i. p. 53. Difficult to cure, *ibid*. The cause of apoplexy, v. iii. ap. 1010. p. 160.
- Pringle* (Sir John) his experiments upon antiseptics, v. ii. p. 20.
- Probe*, searching wounds in the head by it, sometimes fallacious, v. i. p. 243.
- Propellents*, what? v. i. p. 148.
- Purgatives*, gentle, their use in febrile heats, v. ii. p. 168. When useful in diarrhæas, p. 204. Purgatives, *cooling*, recommended in phrenitis, ap. 781, 287. In inflammatory quinseys, ap. 809. p. 312. In inflammations of the intestines, v. iii. p. 104.
- Purg*ing necessary to promote the absorption of extravasated fluids, v. i. p. 262. In contusions, p. 303. Why preferable in a liquid form, v. iv. p. 123. The kind most useful in a tympany, p. 128. Uterine purging, what? p. 172.
- Pus*, generated by inflammations, v. i. ap. 387. Maturation of, ap. 402, 403. Signs of its being ripe, ap. 405. Bad consequences of its being retained, ap. 406. p. 365. Instances of its reabsorption, p. 366. Pus formed in a vomica, v. iv. ap. 1206. p. 28. *passim*. Blood and chyle converted into it, cause of a mirasma, p. 32. How evacuated, ap. 1210. p. 45.
- Pustules* (see eruptions.)
- Pneumonia* pulmonalis produced by a pleurisy, v. ii. 894. p. 24, 6.
- Putrefaction* produced in the fluids by heat, rest, or violent motion, v. i. ap. 80. In animal food, ap. 81. The state of the fluids indicated by it, ap. 82. Animal juices most exposed to this, ap. 83. Its antecedent causes, ap. 86. Diagnosis, ap. 87. Cure, ap. 88. Deduction, ap. 89, 90.

Quinsey,

I N D E X.

Q.

Quinſy, what? v. ii. ap. 788. Of two kinds, ap. 784, 5. Distinction, 787. Seat, 788. *Watery*, ap. 791. Its seat, 792. Causes, 793. Effects, 794. Diagnosis and Prognosis, 795. Cure, 796. *Scirrhus*, ap. 797. p. 302. *Inflammatory*, what? ap. 798. Cause, 799. Effects upon different parts, ap. 800—807. Cure, 809. Corollaries, 819. *Suppurative* quinſy, ap. 814. *Gangrenous* quinſy, ap. 816. *Convulſive* quinſy, ap. 818.

R.

Ramazine, a treatiſe by him on the diſeaſes of tradesmen, v. ii. p. 17.
Rattling in the throat, cauſe of it in dying perſons, v. i. p. 111.
Reaumurſ, his obſervations upon the uſe of unctiſons, v. ii. p. 22.
Regimen, moſt proper for thoſe afflicted with an inveterate ſcirrhus, v. i. 430. p. 431.
Repletions, the cauſe of coma, v. ii. p. 704.
Reſolution, when it may be expected to terminate in inflammations, ap. 386. p. 344. What meant by it, 358.
Reſolvents, what? v. i. p. 57. Uſeful in contuſions, p. 205.
Reviuſion, its uſe in inflammations, v. i. p. 355. In convulſions, v. ii. ap. 713. p. 189.
Reſpiration difficult in putrid fevers, v. ii. ap. 734. Degrees of danger indicated by it, p. 221. Irregular its danger, ibid. Reſpiration difficult in ardent fevers, p. 232. *Deeper* reſpiration forerunner of apoplexy, v. iii. p. 172.
Rhazes, his deſcription of a ſpina ventoſa, v. i. p. 452. *Acrid* gliſters recommended by him in the ſciatica, v. v. p. 152. The firſt who gave the hiſtory of the ſmall pox, p. 2.
Rheumatism, what? v. v. ap. 1490. Procatatic cauſe of it, ap. 1491. Proximate cauſe, ap. 1493. Cure, ibid. Rheumatism the arthruſ of the ancients, p. 135.
Riberia Sanches, the uſe of corroſive ſublimate in the venereal diſeaſe firſt recommended by him, v. v. p. 115.
Rickets, their origin, v. v. ap. 1480. p. 121, 122. The age in which it is the moſt frequent, ap. 1481. Cauſes of it, ap. 1482, 4. Beginning ſymptoms of the diſeaſe, ap. 85, 86. Progressive ſymptoms, ap. 1487—9. Cure, ap. 1489.
Riding, its uſe to gouty patients, v. iv. p. 156.
Ruptures (umbilical) a conſequence of dropſy, v. iv. p. 110.
Rigor, ſometimes critical in ardent fevers, v. ii. p. 244.
Ringiſg

I N D E X.

*Ring*ing in the ears, a bad symptom in a depressed cranium, v. i. p. 251.

Rubia tinctorum recommended by Dr Stork in the rickets, v. p. 133.

Rufworth, the peruvian bark used by him, p. 294.

Ruyfch, his discoveries concerning the conformation of the viscera, v. i. p. 42. And the coronary arteries, 127. His method of suppressing a discharge from the lymphatic vessels, p. 214. Curious instance of a fissure in the cranium from him, p. 241. His injections, what proved by them, p. 333. On the cure of excrescences, v. ii. p. 302. Instance enlarged, spleen from him, v. iii. p. 94. Air bladders found by him in the lungs, v. iv. p. 68.

S.

Sage, infusion of, in wine, recommended to mitigate immoderate sweats, v. ii. p. 193.

Sal ammoniac, recommended for the removal of obstructions, v. i. p. 150.

Saline acrimony, what? v. ii. ap. 641. p. 114. Cause of thirst, *ibid*.

Sarsa parilla, its efficacy in the venereal disease, v. v. p. 119.

Salivation, when necessary, v. v. ap. 1467. How conducted, ap. 1468. *passim*.

Saliva, chief seat of the poison of a mad animal, v. iii. ap. 1136. p. 289.

Salts, their attenuating and resolving power, v. i. p. 149. Recommended as anthelmintics, v. iv. p. 250.

Salt, fixt alkaline, when to be administered in the gout, v. iv. p. 154, 160.

Salts, volatile, their properties, v. i. p. 150. Direction for administering them, v. iv. p. 158.

Sanctorius, his observations upon perspiration, v. ii. p. 22.

Saponaceous substance, what? their resolvent power, v. i. p. 57. p. 150. Their use in febrile heats, v. ii. p. 168. Their use in diarrhæas, p. 202.

Scarlet eruptions distinguished from an erysipelas: v. ii. p. 270.

Scarifications serviceable in gangrenes, v. i. p. 390. After the bite of a mad animal, v. iii. ap. 1143. p. 285.

Sciatica, what? v. v. ap. 1494.

Schenchius, on the effects of hunger, v. ii. p. 27.

Scirrhus, an indolent tumor in the glands mostly succeeding to inflammations, v. i. ap. 392. General cause of scirrhus,

ap.

I N D E X.

- ap. 484. p. 417. Its seat, *ibid.* Particular causes, ap. 485. p. 418. Effects of, ap. 486. p. 421. Diagnosis, ap. 487. Prognosis difficult, ap. 488. p. 424. Scirrhus sometimes innocent, ap. 488. p. 424. Itching and pain in, a sign of approaching cancer, ap. 490. p. 429. Scirrhus formed in the intestines, how known, v. iii. ap. 972. Its effects, ap. 973. Palliatives, ap. 976. Scirrhus in the viscera, frequent cause of dropsy, v. iv. p. 104.
- Scrotum*, dropsy of, v. iv. ap. 1227. Particular seat of this, p. 94.
- Scultetus*, his remarks concerning wounds in the head, v. i. p. 251. Instance from him of matter being voided by urine in a wound of the abdomen, p. 366. His observations upon fevers, v. ii. p. 254.
- Scurvy*, v. iii. ap. 1148. Whether known by the ancients, p. 293. Countries most subject to it, ap. 1150. Predisposing causes, *ibid.* Progress of the disorder, ap. 1151. Proximate cause, ap. 1153. Indications of cure, ap. 1156, 1157, 1160. *passim*.
- Sea salt*, spirits of, recommended in kanker, v. i. p. 85. A powerful antiputrescent applied in fomentations to gangrenes, ap. 438. p. 391. Diluted detergent in cancers, p. 441.
- Serum*, the effects of warm and moist air upon it, v. i. p. 104.
- Shaking* in fevers, its proximate cause, v. ii. ap. 627. Diagnosis and prognosis from it, ap. 629. p. 101, 102. Cure, ap. 630. Palsy shaking, its effect, v. iii. p. 212.
- Simpson* (Dr.) his opinion concerning the pellicle upon inflamed blood, v. i. p. 343. Case from him of the dropsy in the lungs, v. iii. 68.
- Singultus*, what? caused by apthæ, treatment, p. 143.
- Skull*, wounds of, v. i. ap. 254. Diagnosis, ap. 255. Effects, ap. 256. Cure, ap. 258—264. Change of colour in the bone, a sign of injury, p. 243. Of exfoliation, p. 247. Manner of laying the bone bare, ap. 259.
- Sleep*, its effect upon the system, v. i. p. 202. Posture of the body in sleep, p. 206. Privation of sleep common to melancholy persons, v. iii. ap. 1109.
- Sleepiness*, forerunner of apoplexy, v. iii. p. 171.
- Small pox*, v. v. ap. 1379. Seasons of its appearance, ap. 1380. p. 3. Least dangerous to children, ap. 1381. Propagated by contagion, ap. 1382. Symptoms of the first stage, ap. 1383. State of blood, 1384. p. 9. Treatment in the first stage, ap. 1388. Symptoms of the second stage, ap. 1396. Diagnosis

I N D E X.

- Diagnosis and prognosis respecting the second stage,* 1398, 99. *Symptoms of the third stage,* ap. 1410, 1411. *Treatment,* 1402. *Seat of the pustules internal as well as external,* *ibid.* *Inoculation recommended,* ap. 1403. p. 28.
Small-pox, the antiquity of the disease, v. v. p. 2. Some persons incapable of receiving the infection, p. 5. Whether it can be received more than once, *ibid.*
Sneezing, serviceable to raise a depressed cranium, v. i. p. 254.
Soap (Venetian) its resolvent power, v. i. p. 86. Useful in recent scirrhus of the stomach, p. 92. and in acid acrimony of children, v. iv. p. 239.
Solano, his remarks upon the pulse, v. ii. p. 34, 48. Upon crisis by urine, p. 50.
Soot, its attenuating power, v. i. p. 151.
Spices, their febrile tendency how subdued, v. ii. p. 71. *Spiritus nitri dulcis,* a powerful carminative, v. ii. p. 131.
Spasms in the intestines, how removed, v. ii. p. 131, 132.
Spiculae (icy) how extracted from the frozen, v. i. p. 398.
Spina bifida, what? v. iv. p. 60. Whence it proceeds, *ibid.* Treatment, p. 61.
Spina dorsii, unctions of, good in intermittents, v. ii. ap. 768. p. 274.
Spina ventosa, what? v. i. p. 452.
Spirit of sulphur per campanam, its efficacy in putrid diseases, v. i. p. 98.
Spitting, when critical, v. ii. p. 48. Spitting at attendants, a dangerous symptom in phrenitis, p. 280. Spitting salutary in peripeumonies; ap. 830. p. 334. ap. 851. p. 366. Sudden suppressions of, its causes, ap. 864. p. 372. How prevented, ap. 866. Frequent spitting sign of melancholy, v. iii. ap. 1109.
Stalpart, Vander Wiel, instance from him of a paralytic quinsy, v. ii. p. 321. His observations upon the dropfy, v. iii. p. 56.
Steel, dissolved in vegetable acid, an excellent medicine in diseases from weak fibres, v. i. p. 30. Filings of steel their efficacy, p. 75.
Sterility, occasioned by scirrhus, v. i. ap. 486. p. 422.
Sternutatories, their use to women in labour, v. iv. p. 201.
Stupidity, an effect of a depressed cranium, v. i. p. 250.
Stiffness of the extremities, as a febrile symptom examined, v. ii. p. 12.
Stimulants applicable to paralytic causes, v. iii. ap. 1069. 68. Seat of this application, p. 220.

i & nach,

I N D E X.

- Stomach*, evil consequences of its being loaded with food, v. ii. p. 77. The cure, *ibid.* Inflammations of stomach, cause of incurable nausea, p. 127. Foulness of, the cause of cutaneous eruptions, p. 208. Inflammations of, v. iii. ap. 951. Its danger, 952. Termination, ap. 953. Cure, ap. 954. Prognosis, ap. 956. Scirrhus of stomach, ap. 956. Palliatives, ap. 957. Peculiar sensibility of, p. 88.
- Stone*, the nature and seat of the disease, v. v. ap. 1414. Renal what? ap. 1415. Its effects, ap. 1416. Effects in the ureters, ap. 1417. In the bladder, ap. 1418. Effects of it, ap. 1421. Diagnosis of it in the kidneys, ap. 1422. The nature and cause of it ascertained by the experiments of Boerhaave, p. 45 *passim*. Found in the various parts of the body, p. 51. The nature and cure of the disease from Hoffman, *ibid.*
- Subacid* liquors asswagers of thirst, v. ii. p. 116. Removing nausea, p. 124.
- Submersion* recommended in the bite of a mad animal, v. iii. ap. 1143. p. 285.
- Substances*, regeneration of, after a wound, v. i. p. 194. Reunion, p. 192. Acrimonious substances, cause of inflamed bowels, v. iii. ap. 959. p. 97.
- Sudorifics*, their use in vomica in the lungs, v. iv. p. 41, 42. In the gout, ap. 1372. p. 148.
- Sulphur*, its power in subduing the force of poisons, v. ii. p. 69.
- Suppuration*, what meant by it, v. i. p. 155. Inflammation terminated by it, ap. 387. p. 346.
- Sutures*, when of use to approximate wounds, v. i. ap. 214.
- Sweats*, not always salutary, v. iii. p. 47. Critical, what? *ibid.* When to be expected, p. 48. Febrile symptomatical, not salutary, ap. 715. Their effects, ap. 716. Cure 717. Their use in checking diarrhæas, p. 105. Salutary on critical days, p. 244. *Colds*, what indicated by them, v. iii. p. 166. Profuse sweat at night, a hectic symptom, v. iv. p. 33.
- Sydenham*, attentive to analogy in his practice, v. i. ap. 12. p. 13. His ideas of a fever, v. ii. p. 3. p. 31. Aliments prescribed by him, *ibid.* Upon comatous fevers, p. 181. Excellent observations of his relative to the small pox, v. v. ap. 1380.
- Symptom*, general idea of it, v. i. ap. 15. p. 15. Symptoms critical, how distinguished from others, v. ii. p. 9. Perpetual change of symptoms bad, p. 282.
- Synochus non putris*, what? v. ii. ap. 729, 216. Cure, *ibid.*

I N D E X.

T.

- Tabes*, what? v. iii. ap. 1169.
- Tabes renalis*, what? v. iii. p. 152.
- Tænia*, their shape, size, and seat, v. iv. p. 243.
- Tartar* of wine, the affinity betwixt its properties and those of the human calculi, v. v. p. 59.
- Teeth*, gnashing of a bad sign in phrenies, v. i. p. 281.
- Teething*, epilepsy from hence, how cured, v. iii. p. 228.
- Tendons*, consequences of their being wounded, v. i. 169.
Method of treating a wounded tendon, p. 170.
- Terebra*, its use to promote an exfoliation of the bone, v. i.
ap. 252. p. 239.
- Testicles*, venereal swellings, how treated, v. v. ap. 1462.
p. 108.
- Tetanus*, a species of epilepsy, v. iii. ap. 1088.
- Thermometer*, febrile heat ascertained by it, v. i. ap. 673.
p. 153.
- Thirst*, cause of it, v. ii. ap. 636. What indicated by it, ap.
638. How relieved, ap. 640. Insatiable in ardent fevers,
p. 232. Absence of thirst, a bad sign in phrenitic as a drop-
sical symptom, v. iv. p. 107.
- Thorax*, wounds in it, why mortal, v. i. p. 179. Not pe-
netrated by wounds, how ascertained, ap. 297. p. 275.
Penetrated, ap. 300. Consequences of these wounds, ap.
301. Signs of extravasated blood in the thorax, ap. 302.
How evacuated, ap. 303. p. 281. Treatment of the wound,
ap. 304.
- Tonsils*, inflammations of, v. ii. ap. 805.
- Tophi* of the bones, what? v. i. p. 465.
- Torpor*, a dropical symptom, v. iv. p. 107.
- Tossings*, the danger indicated by them, v. i. p. 222.
- Trallian*, cold water in pains of the bones, recommended by
him, v. 106.
- Tremblings* in the beginning of fevers, to be treated differently
from those towards the end, v. ii. ap. 630. p. 104.
- Trepan*, in what case necessary to be applied, v. i. ap. 271.
When improperly applied, ap. 274. Where properly, ap.
275, 276. p. 266. Manner of performing the operation,
ap. 277—293.
- Trush*, description of, v. iii. ap. 979, 980. Seat of, ap. 981.
Symptoms preceding, ap. 983. p. 124. Degrees of danger,
ap. 984. p. 127. Of colours, ap. 985. Progress of the
disease, ap. 988. Cure, 990. Diagnosis, ap. 991.
- Tulpius*,

I N D E X.

- Tulpius*, instance from him of the cure of a wounded viscus, v. i. p. 178. Of a paralytic quinsy, v. ii. p. 304, 321.
- Tumors* of the testicles, how cured, v. i. p. 61. Various kinds of tumors described, ap. 112. p. 123.
- Tumor*, sudden increase of, sign of cancer, v. i. p. 437.
- Tunica adiposa*, what? seat of inflammation, v. i. p. 335.
- Tunica vaginalis*, seat of hydrocele, v. iv. p. 97. Distinguished from others, ap. 1227. p. 96, 97.
- Turbith* mineral, instance of its efficacy in the cure of madness, v. iii. p. 291.
- Turnips*, decoction of, useful in apthæ, v. iii. p. 135.
- Turpentine*s, recommended in abscess of kidneys, v. iii. p. 151.
- Tympany*, what? v. iv. p. 87. Distinguished from an ascites, p. 87. Seat of tympany, p. 88. Its cause, p. 89. Remarkable instance of, p. 91. Cure of, ap. 1251. Abdominal tympany distinguished from intestines, p. 92.

U.

- Ulcers*, sordid, how prevented, v. i. p. 194. Too speedily healed, the cause of scirrhus tumors, particularly in the breast, p. 419. From a carous bone, its malignancy, ap. 553. ap. 468. Ulcers in the lungs, why so difficult to cure, v. iv. p. 37. See empyema, vomica, phthisis pulmonalis.
- Urethra*, adhesion of stones in it, how remedied, v. v. ap. 1434. p. 90.
- Urine*, highly putrid, instance of it, v. i. p. 101. Involuntary, an alarming symptom in wounds of the head, p. 251. In what case it gives a critical indication, v. ii. p. 50. Retention of urine productive of fevers, v. ii. p. 20. Redness of, proceeding from internal heat, ap. 673. p. 154. State of the urine in putrid fevers, p. 219. In intermittents, p. 260. What indicated by red or turbid urine, p. 223. Thin and watery in small quantities, p. 225. Sediment in urine, when salutary, p. 224. Black or bloody urine its danger, p. 245. Thick a peripneumony sometimes terminated by it, v. ii. ap. 830. How promoted, ap. 853. Frothy in diseases of the lungs, p. 341. Black urine, a symptom of gangrene, v. iii. p. 34. Termination of the hepatitis by it, ap. 923. How promoted, ap. 924. Diminished in quantity, a dropical symptom, v. iv. p. 108. Difficulty in urine, the frequent effects of pregnancy, v. iv. ap. 1301. p. 186. Suppression of urine in small pox, how remedied

I N D E X.

remedied, v. v. p. 24. *Bloody*, how remedied, *ibid.* Experiments upon urine to ascertain the cause of human calculi, p. 45. Bloody urine from stones in the kidneys, p. 69. *Uterus*, a vascular substance, thickens in a gravid state, v. iv. p. 176. Effects of its pressure upon the intestines, p. 178. Inflammation of, how treated, p. 220. *Uvula* (scirrhous) its effect, v. ii. p. 294. *Uvula* lengthened in the watery quinsy, p. 206. Inflammations of, ap. 806.

V.

Van Heers, quicksilver recommended by him in the illiac passion, v. iii. p. 105. *Vapours*, emolient, their uses in promoting expectoration in peripneumonies, v. ii. ap. 866. p. 374. In deterging ulcers of the lungs, v. iv. p. 45. *Varix*, definition of it, v. i. p. 124. Beneficial in fevers, v. ii. p. 286. *Vegetables*, the want of, cause of scurvy, v. iii. p. 296. *Veneral* disease, the cause of diseases of the bones, v. i. ap. 549. p. 464. *Venefection*, when of use in fevers, v. ii. p. 80. The action of diluents assisted by it, p. 91. Necessary in inflammatory plethora, ap. 693. p. 166. And in inflamed quinsy, ap. 809. p. 312. When necessary in peripneumony, ap. 870. When salutary, ap. 873. *Vertex*, wounds in, why so dangerous, v. i. p. 272. *Vertebra*, luxation of, consequence of this, v. i. p. 328. *Vertigo*, a forerunner of apoplexy, v. iii. p. 171. A sign of pregnancy, v. iv. p. 180. *Vesicatories*, attenuants of petuitous matter, v. i. p. 87. *Vessalius*, his method of stopping an hæmorrhage, v. i. p. 210. *Vessels* large and small, their construction and diseases, v. i. ap. 38, 39. Their growth explained, p. 59. Their contractive power, p. 127. *Smaller* vessels collapse by inanition, p. 136. Inflammation of different classes of vessels, productive of different effects, p. 139. The effects of different substances upon them, p. 141. Wounds in vessels not always mortal, p. 179. Strong action of the vessels, the cause of density in the blood, v. ii. p. 157. Cutaneous vessels, their relaxation, how cured, v. ii. p. 192. Delicate contexture of the, predisposing to a phthisis, v. iv. ap. 1198.

Vinegar,

I N D E X

- Vinegar*, its antiputrescency, excellent in gangrenes, v. i. ap. 438. p. 391. Vinegar applied with water to the temples, good in watchings, v. ii. p. 184. And in recent inflammations of the breast, v. iv. p. 225.
- Virgins*, diseases incident to them, v. iv. ap. 1283.
- Viscera*, diseases of weak and lax, v. i. ap. 41. Causes, ap. 43. Consequential diseases, ap. 44. passim. Cure, ap. 48. Their uses, p. 39. Their contexture, p. 42. Signs of their returning strength, p. 47. Too great a rigidity of, what? ap. 50. Causes of their rigidity, ap. 51. Effects produced by it, ap. 52. Cure, ap. 54. Diseases known from the different states of the viscera, p. 61. Contusion of viscera, injuries induced by it, ap. 327. *Abdominal viscera*, the seat of the hypocondriac passion, v. iii. ap. 1098, 99.
- Vitriol*, impregnated with steel, a powerful anthelmintic, v. iv. p. 252.
- Vitriolum album*, a powerful emetic, proper in urgent cases, v. ii. p. 73. v. iii. p. 185.
- Voice*, squeaking of, in ardent fevers, a dangerous symptom.
- Vomica*, in the liver, cause of perpetual nausea, v. ii. p. 127. In the lungs, its nature and effects particularly described, ap. 833, 835, 855, 856. p. 365. ap. 858. p. 367. Breaking of, how assisted, v. iii. ap. 1190. Signs of its forming in the lungs, v. iv. ap. 1202. Progress of, ap. 1206. Treatment of, ap. 1208.
- Vomitings* (bilious) a consequence of a depressed cranium, v. i. p. 251.
- Vomitings*, definition of it, its proximate and remote causes, v. ii. ap. 652. Particular causes specified, ap. 653. Effects of, 656. Cure, ap. 657, 8. Diagnosis, ap. 659. Vomiting a symptom of the nephritis, how removed, v. iii. ap. 999.
- Vomits*, their utility in the beginning of acute diseases, v. ii. ap. 645, 659. p. 142. Their use in a diarrhoea, p. 202. In dropries, v. iv. ap. 1244. When necessary in ricketty patients, v. v. p. 131.

W.

- Wapfer*, his observations relative to the sympathy between the brain and the stomach, v. i. p. 224. Upon acrid substances, v. ii. p. 82. Stones found by him in the pineal gland, v. v. p. 51.

Water,

I N D E X.

- Water*, its cementing qualities, v. i. p. 19. Putrid in dropsies, productive of fevers, v. ii. p. 28. Prognostics taken from the different states of it in dropical patients, v. iv. p. 118. Earthy particles in it supposed to be the cause of stone, v. v. p. 53. This opinion refuted, *ibid*.
- Watchings*, their pernicious effects, v. ii. p. 76. Particularly described, ap. 708. p. 181. Cure, 709. p. 183.
- Water, boiling*, its effects upon the body, v. i. ap. 408. Quantity of heat in it, *ibid*.
- Water, cold*, its efficacy in pains of the bowels, asserted, v. iii. p. 106. And in stopping hæmorrhages, v. iv. p. 7.
- Water, warm*, its relaxing virtues, v. i. p. 142. Excessive use of, productive of palsy, v. iii. ap. 1060. p. 209. Its good effects in dissolving the stone, v. v. p. 78.
- Waters, medicinal*, enumeration of them, and of the cases in which they are applicable, v. iii. p. 202.
- Watery fluids*, good in rigid fibres, v. i. p. 35. In inflammations, p. 357. Preferable to simple water, v. ii. p. 65. Assuagers of thirst, p. 116.
- Watery vapours*, their power to soften hard bodies, v. i. p. 32.
- Weakness, febrile*, v. ii. ap. 660. Proximate and occasional causes, ap. 661, 662. Diagnosis, ap. 663, 666. How distinguished, v. ii. p. 144. Its causes explained, p. 145, 146. Cure, ap. 667—672. When insuperable, ap. 672. p. 152.
- Whey*, excellent in putrid diseases, v. i. p. 98. In inflammations of the stomach, v. iii. p. 90. And intestines, p. 110, 115.
- Whytt* (Dr.) his experiments upon chalk stones, v. iii. p. 138.
- Winds*, their good or noxious influence, v. v. p. 33.
- Wines, (rough ones)* nutritive in diseases of weak fibres, v. i. p. 27. *Rhenish*, recommended to excite the spirits in gangrenous cases, p. 388. Wines mixt with water, proper in fevers, v. iii. p. 65. p. 88.
- Wine (spirits of)* with vitriol, preferred by Sydenham for a burn, v. i. p. 411. *Malaga*, prescribed by Sydenham to cure sweats, p. 193.
- Winslow*, his anatomy of the head, v. i. p. 233.
- Womb*, seat of dropsy, v. iv. ap. 1224. Counterfeiting pregnancy, p. 77. Cure, p. 78.
- Women*, pregnant and puerperal, danger of a pleurisy to them, v. iii. ap. 908. p. 38. In child-bed diseases, v. iv.
- Woods*, decoctions of the, best adapted to diseases of the bones, v. i. p. 454.

L *Worms*,

I N D E X.

Worms, productive of catalepsy, v. iii. p. 188.

Worms in children, whence? v. iv. ap. 1360. Three different species of, ap. 1363. Commotions excited by them, ap. 1364. Diagnostic, ap. 1368. Cure, ap. 1369. Worms found in different parts of the body, p. 241. *Round worms* questioned whether the same as earth worms, p. 243. *Tæmia*, their shape and size, p. 243. *Ascarides*, &c. *ibid.*

Wounds, definition of, v. i. ap. 145. Their cause, ap. 146. Seat, ap. 147. to 158. Effects in the *muscular* parts, ap. 158. In an *artery*, ap. 159—161. *Nerves*, ap. 163. *Tendons*, ap. 164, 165. *Lesser vessels*, ap. 166. Diagnosis, ap. 167, 168. Prognosis, ap. 168. to 175. General cure, ap. 185, 203. *Topical*, to ap. 217.

Wounds, method of treating a recent wound, v. i. p. 72. To ascertain the danger by anatomical knowledge, p. 173. By the injured functions, p. 174. Matter discharged, *ibid.* Symptoms, *ibid.* Prognosis, p. 175, 176.

Wounds, hæmorrhages from, v. i. ap. 218. Pain in 220. Cause of pain how removed, ap. 228. Sense of pain how removed, ap. 229. (See head, thorax, abdomen) paleness in, p. 273.

Z.

Zacetus Lusitanus, quicksilver recommended by him in the illiac passion, v. iii. p. 106.



